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ABSTRACT OF

A Lecture

ON

HOUSING AND TOWN PLANNING.[1]

Delivered at the Medical School of St. George's Hospital

BY F. E. FREMANTLE, M.B. OXON., F.R.C.P. LOND., F.R.C.S. ENG., D.P.H.,
COUNTY MEDICAL OFFICER FOR HERTFORDSHIRE.

GENTLEMEN,—Housing and town planning are taken in this lecture as an embodiment of the outward conditions affecting man's health. They include the whole sanitary circumstances of the home life, as apart from the physiological circumstances—food and drink, exercise and rest—and as apart from the circumstances of the non-domestic working life in workshop and school. They afford, therefore, a good illustration of sanitation in the narrower sense, especially as affecting the women and younger children.

Of the facts of overcrowding there is exact information through the censuses taken in 1891 and 1901. Over two and a half million persons, or 8·2 per cent. of the population of England and Wales, were in 1901 living more than two to a room, 9 per cent. in urban and 6 per cent. in rural districts. This figure varies in different districts from almost zero to nearly 35 per cent., some purely industrial towns, like Leicester and Northampton, having barely 1 per cent. overcrowded, London 16 per cent., and six towns, all old seaports, over 20 per cent., Gateshead heading the list with 34·5 per cent. In the counties the coal-mining districts of Northumberland and Durham are the worst, Tynemouth district having 38 per cent. overcrowded. But the diminution in these figures since 1891 is substantial, London having improved from 20 to 16 per cent., and the whole country from 11·2 to 8·2 per cent., owing to travelling facilities, to building enterprise, to administrative action against overcrowding, and, not least, to the declining birth-rate.

EFFECTS OF BAD HOUSING.

Housing may be defective either in amount or in quality; but in either respect the co-existence of defective housing and ill-health is obvious. Let us, then, compare the death-rates, first with the density of population on area (Tables I., II., and III.), then with figures showing crowding in rooms (Table IV.), and thirdly, with prevalence of one particular defect—namely, back-to-back houses.

TABLE I.—*Density of Population and Mortality in Countries.*

Countries.	Inhabitants per square kilometre.	Crude death-rates, 1886.
Norway	6	16·1
France	72	22·5
Germany	86	26·2
Italy	105	28·3
England and Wales ...	182	19·5

With the exception of England density varies with death-rate.

Table II., again, shows, with only two unimportant exceptions, how density varies with the death-rate. The contrast is still more clearly marked and more pertinent as between different districts of the same town.

The comparison becomes more precise when we consider the death-rates in respect of overcrowding in rooms. This is defined as the occupation of a tenement by a number exceeding two to a room. Let us compare three London districts, representing respectively wealth, slums, and suburbs, with two big industrial cities, and with my own healthy county of Herts.

[1] We published a fortnight ago one of Mr. Fremantle's Edward Jenner Lectures at St. George's Hospital. This lecture is an abstract of one of the same course.

TABLE II.—*Density of Population and Mortality in Districts, England and Wales, 1891–1900.*

(From the Supplement to the Sixty-fifth Report of the Registrar-General, 1891–1900, p. lxix.)

Districts having corrected death-rates per 1000 of—	Density (persons to a square mile).	Districts having corrected death-rates per 1000 of—	Density (persons to a square mile).
11–12	136	19–20	1,705
12–13	161	20–21	2,339
13–14	181	21–22	4,424
14–15	261	22–23	4,884
15–16	407	23–24	4,194
16–17	457	24–25	2,925
17–18	737	25–30	7,480
18–19	1303	30–35	55,563

Mean density of above districts, 525 persons to a square mile.

TABLE III.—*Crowding and Mortality 1891–1900.*

—	Corrected death-rate.	Infant mortality.	Percentage of tenements with less than five rooms.	Percentage of these with over two persons to a room.
England and Wales	18·2	153	47	12
London	20·1	160	66	19
Lewisham	14·8	134	30	6
Westminster ...	17·0	144	70	20
Whitechapel ...	33·1	172	85	43
Manchester	28·3	211	70	10
Liverpool	35·4	223	68	2
Herts	14·1	110	36	5

To show the unhealthiness of defective housing a striking contrast in death-rates has been made out with regard to houses built back to back, in which, therefore, light and air are only admitted on one side of every house and there can be no through-ventilation, as compared with through-ventilated houses.

TABLE IV.—*Defective Housing and Mortality.*

Comparable observations by—I., Dr. Tatham; II., Mr. Herbert Jones.	Population.	Mortality per 1000 population. All causes.	Lung diseases, excluding phthisis.	Phthisis.	Principal zymotic diseases.	Diarrhœa only.
I., Salford { No back-to-back houses ... ... }	8,713	27·5	6·6	2·8	4·5	1·4
I., Salford { 56 per cent. back-to-back houses ... ... }	11,405	30·5	7·9	3·6	6·2	2·1
II., Saltaire, Through houses ...	4,218	15·6	3·6	2·7	1·1	0·2
Shipley { Back-to-back in 75 ft. streets ... }	2,200	18·1	4·9	2·8	1·3	0·2
Shipley { Back-to-back in 40 ft. streets ... }	710	28·1	7·4	4·6	2·9	0·8

Back-to-back houses, then, show a higher death-rate than through-houses, but this difference is materially reduced in broad streets.

As a last example of these statistics we may note those cited to show the healthiness of the Letchworth Garden City, which in 1909 showed a death-rate of 5·2 per 1000, as compared with 14·0 for London and higher figures for well-known sea resorts; an infant mortality of 32 as compared with 96 for Brighton and 108 for London.

I trust, however, that my first two lectures to you, gentlemen, on vital statistics may have kindled your fiery criticism on these figures. They are commonly quoted, even by medical officers of health and widely by housing reformers, as showing the dire effect of evil housing on health. When

the King visits Hampstead Garden Suburb he is supplied with facts of this sort and is duly reported to have been deeply impressed.

But it is obvious that those live cheapest who live most crowded; they will surely include the least careful and least healthy, the dirtiest, most ignorant, and most criminal of their class, amongst whom the death-rate is bound to rule high. New dwellings, on the other hand, and garden cities would naturally house a more select population. The figures quoted above show a broad connexion between density of population and cheap housing on the one side and mortality on the other. Overcrowding, whether on area or in rooms, back-to-back houses, age, decay, and insanitary conditions, are all factors in cheapness of which poverty is quick to avail itself.

One of the best articles hitherto written on the subject of housing, that by Dr. Shadwell in the new "Encyclopædia Britannica," emphasises the fact that—

> The poorest people live under the worst housing conditions because they are the cheapest; the economic factor governs the situation. Poverty again is associated with bad habits, with dirt, waste, idleness, and vice, both as cause and as effect. These factors cannot be separated in real life; they act and react upon each other in such a way that it is impossible to disentangle their respective shares in producing physical and moral evils. To lay all responsibility upon the structural environment is an error constantly exposed by experience.

REQUIREMENTS FOR ADEQUATE HOUSING.

A good house should be light and airy, warm, dry, and sound; for general purposes it should contain three bedrooms; and the arrangements for artificial lighting, heating, washing, and cooking, for the disposal of sewage, slops, and refuse, and for the water-supply should be both sufficient and convenient. Let us consider these factors in turn, recognising as the British standard for all new houses the model by-laws respectively for urban and rural districts.

1. *Surroundings—Site, aspect, soil, yard.*—The site should be above the general level of the district for the sake of dryness; it may with comfort be protected from the easterly winds, but it should be open to two, and preferably three, sides of the compass; it should be clear of rising ground or of trees around it; it should be as sunny as possible. The aspect for preference should be to the south-west, but streets are best built north and south so as to get sun on both sides during the day. The soil is best porous and should in any case not be of organic rubbish. The yard at the back of a small town house must be at least 150 square feet in area, and as it is liable to be a source of trouble it should be paved and drained.

As to the space required around a house, the ideal no doubt is total solitude; the minimum should be free space fore and aft, each equal to the height of the house. This gives a "building angle" of 45° from the building line on the opposite side of the street to the top of the house. In London, however, the by-laws allow buildings to be half as high again as the length of space in rear.

2. *Structure.*—Walls and roof must be sound and impervious to rain, either in themselves or—since both tile and brick will hold their own weight of water—by stucco or rough-cast outside, by plaster and ceiling in. A damp-course—e.g., of slate—must be inserted in the walls all round the house above ground level to prevent damp rising from the ground; and for the same reason the basement must be concreted, or, if there be no basement, as, for instances, in villages, there must be through ventilation under the floor. In this way the modern house is perfectly dry even when built on damp ground. A century ago snipe were shot in the marshy ground now occupied by Belgrave-square.

3. *Rooms.*—In height the object is to allow the expired air to rise, instead of persons being compelled to inhale each other's breath; rooms therefore should be 8 or 9 feet high. Over 13 feet of height is of little value. The smaller rooms should be large enough to take a full-sized bed with as much space beside; window area should be at least one-tenth of floor area and every room should have a window to open, a door to shut, and a fireplace.

4. *Sanitation.*—Every house should have a separate closet, with a window to open to the outside and a door to close, so constructed as to remain clean and dry. In towns it should be a water-closet in every case; in villages it should be a pail-closet with dry earth or ashes handy. Both in town and country water should be laid on in the house and a sink and a bath provided, properly drained either to a sewer or cess pool, which must not be within 30 ft. of the house. For removal of refuse the only proper arrangement is a metal ash-bin.

NEW METHODS OF CONSTRUCTION.

One of the greatest changes in the history of housing is due to the still recent discovery of cheaper methods of construction.

Steel-concrete.—This combined material is now commonly known as steel-concrete, ferro-concrete, or reinforced concrete, and is extensively used for buildings of every kind where its appearance is not a bar to its use. In the Hennebique system, on which the new Post Office in Newgate street is built, the steel rods are round; in other systems they are flat; but the commonest system involves the use of "expanded" steel, in which a steel plate is cut along intermittent parallel lines into a series of strips connected at regular intervals; when this plate is forcibly stretched it becomes a network which, when embedded in concrete, strengthens it materially. Edison has recently urged the standardisation of workmen's houses made in this material, so that they might be turned out in slabs from common moulds, each wall being moulded as a single piece and the pieces fixed together on the site.

Hollow walls, again, are used on the principle that the air-space contained is a source of warmth and dryness and that the supporting strength can always be obtained by steel or by solid building at the angles. The walls may be of hollow brick, or, as in the Frazzi method, hollow slabs of terra-cotta four inches thick, in which the terra-cotta is a mere half-inch shell with half-inch partitions between the parallel hollow spaces.

These various methods of construction demand reconsideration of the function of house-walls. Walls are no longer required to support the floors and roof above. Support is given by a separate steel skeleton, which in buildings of this style is the first part to be erected and then is gradually clothed, often from above downwards, by means of a crane reaching above the roof line.

These curtain-walls then, as they are technically called, are only required to keep the contents warm and dry and to afford privacy. This might well be done by walls of mere glass, doubled for sake of warmth, draped for sake of privacy and internal appearance. Opaque walls cut out sunshine; and the sun is good both for health and spirits. On this principle larger windows are now provided and should be further encouraged.

Steel concrete has again affected the science of construction with regard to the public health by enabling buildings to be erected of immense height—40 storeys, for instance, in New York, where the streets are still comparatively narrow; where light and air, therefore, in the lower floors are seriously defective. The London "building angle" prevents the erection of such buildings here, for if 300 ft. high they would necessitate a street 300 ft. wide, and this would be neither economical nor convenient. Nevertheless, the general tendency of these new methods of construction is to promote higher buildings and broader roads; while in districts where brick and labour are dear and steel concrete is cheap such methods may cheapen the cost of the workman's cottage.

RURAL HOUSING.

It is in the village and small towns rather than in the great cities that the threads of this, as of most social and sanitary problems, may be unravelled and traced to their source. In the villages overcrowding, if not so acute, is almost as common, and defective housing of all sorts is far commoner, more variable, and more extreme than in the cities. Less is heard of it because the country is less under the eyes of the press, and the simple villager has not yet made his voice heard in the turmoil raised by the city slums. It is indeed of less importance, as the villager commonly spends his day in fresh air and healthy living. But its effects and its causes are the same everywhere.

Here a careful study shows that the oldest, dirtiest, and most dilapidated houses in poor districts and in villages will always be inhabited. It is only as these are closed that successive strata of society are compelled by the law of supply and demand in each stratum in turn to move higher in the housing scale. It is only in order to accelerate, not to supplant, this movement that the landowner or the local authority should be asked to provide new houses; and if tenants can be found for them, it matters little whether the actual working classes are directly or only indirectly

benefited, so long as the worst houses are closed. Best of all is the provision of new houses by the workmen themselves on co-partnership lines, as is now being extensively affected by the "Coöperative Tenants, Limited."

REMEDIAL POWERS.

It is often forgotten that the chief housing powers are those of the great Public Health Act of 1875 and the corresponding Act for London of 1891, by which the local sanitary authority is empowered, not only by by-laws to supervise new buildings erected, but to inspect and order the abatement of unhealthy conditions, including overcrowding, and if necessary to declare houses unfit for habitation and close them by order.

The Housing Act of 1890 gives powers of demolition and rebuilding. By Part I. it allows whole areas, which are reported insanitary, to be demolished under an improvement scheme. By Part II. single houses or small groups can be closed on the report of the medical officer of health either as insanitary or as obstructive, including back-to-back houses, and, failing repair by the owners, can be demolished. By Part III. local authorities may build houses to supply needs shown, acquiring land by compulsory purchase and raising loans for the purpose. The exercise of these powers is subject to the sanction of the Local Government Board, which sends down inspectors to hold local inquiries into each case. Compensation has to be made to private owners for property thus affected, demolished, or acquired.

Under this and subsequent amending Acts a great amount of work has been carried out in the cities. As regards Part I., in the 15 years 1891–1905, 28 provincial towns raised loans for improvement schemes amounting to £2,300,000; Leeds spent half a million in clearing 75 acres; and London up to 1908 had cleared 104 acres and displaced 48,500 persons at a gross cost of nearly three and a half millions, at a net cost of nearly two and a half millions. So much for improvement schemes. There will not be much need for them in future, the worst slums being now abolished.

But it is under Part II. of this 1890 Act, apart from action under the 1875 and under local Acts, that the most useful work will continue to be done. In the six years 1899–1904 400 local authorities outside London received representations against over 33,000 houses, caused over 17,000 to be made fit for habitation, closed 4220, and demolished 748.

Municipal building, however, under Part III. of the Act, especially in the great cities, has attracted more attention. It is well to note that whereas London and 130 boroughs and districts had to the end of 1906 built some 20,000 dwellings, the private enterprise of the Peabody, Rowton, Guinness, and other large trusts had in London alone housed 150,000 persons.

TOWN PLANNING.

Lastly, by the Housing, Town-Planning, &c., Act, 1909, the law has taken note of the principle, new to housing reformers but as old as time, that not only the individual structure, but the relationship of the houses to each other, is of importance, alike to amenity, convenience, and health. Rome and Athens, Paris and Washington, aye, and even in their utilitarian way the gridiron-patterned American cities of mushroom growth, are conspicuous instances of town-planning. Their plan, however, has been mainly designed with a view to amenity, or rather grandeur; barely, if at all, to convenience, except in the mind; certainly not to public health. The boulevards of continental cities hide the most squalid, dark, and unhealthy conditions behind their palatial frontages; health, convenience, and real amenity are sacrificed to architectural effect.

While the first part of the new Act makes inspection and consideration of housing conditions the definite and constant duty of every local authority and its medical officer of health, and strengthens their hands, the second part of the Act gives power to the local authority to supervise the laying-out of land under development. One or more authorities may either themselves prepare a town-planning scheme or may adopt a scheme prepared by one or more landowners. Both a *primâ facie* case and the completed scheme have to be sanctioned by the Local Government Board; every facility is given for objections, and provision is made both for worsement and betterment of the property.

What is the practical effect of town-planning? 1. Roads are laid out from the first with a view to their probable use—wide enough and not too wide—gravel paths being in some cases sufficient for the immediate approach to cottages, 8 ft. roads in others. 2. Grass borders, paths, or gardens are left alongside the road with a view to possible widenings. 3. Convenient cross connexions are ensured. 4. The number of houses to the acre is limited. 5. The space and light round each house are controlled. 6. The municipal and State services—water, sewage, scavenging, gas, electricity, tramways, posts, telephones, and telegraphs—can be provided for in advance. 7. Open spaces and parks can be provided where required, and not otherwise.

Town-planning is as essential to local government as by-laws for new buildings; and schemes, great or small, should be adopted for the outskirts of every town or village not actually at a standstill in development.

GARDEN CITIES.

The enthusiasm in this country for town-planning is due to a shilling book entitled "Garden Cities of To-morrow," written by Mr. Ebenezer Howard in 1898. Town-planning was an essential part, but part only of his scheme. He proposed to check the constant growth of towns and of slums by a counter-stroke. At present it is the residents alone that try to leave the towns, to establish their houses as far out into the country as possible, returning by rail every day to the town for their work.

This centralisation of industry, Howard contended, is no longer necessary. It is cheaper for the industry itself, directly and indirectly, to be in the country, where rates are low, land for expansion cheap, conditions of life healthy; where steam and electricity establish sufficient communication with the offices and exchanges in town; where industrial life becomes healthier and more simple, while agriculture gains a market for its produce. The future remedy for the urbanisation of our race rests, as Mr. Justice Neville has said, not in garden suburbs, but in garden cities and villages. Bournville, Port Sunlight, Letchworth—go and see them when you can, and you will see visions of the future Utopia, in which the most urgent social problems, housing foremost, have been solved, the public health set on a firm basis, and the foundations of a healthy nation assured.

SUMMARY.

1. The housing problem consists of defects both in quantity and quality of accommodation in relation to a changing standard of requirement.
2. English conditions are considerably better than those in Scotland and Ireland or in foreign countries.
3. There is marked improvement during the past 20 years.
4. The poor will always live in the cheapest houses, and the oldest and poorest are essentially the cheapest.
5. Wholesale removal of slums has been done much in the past and leaves little to be done in the future.
6. Closure and demolition of single houses are means much used and of prime importance.
7. New buildings for inhabitation by the labouring classes involve unnecessary waste of money, but may occasionally be necessary; they will then involve a charge on the rates.
8. Town-planning and the decentralisation of industry in garden cities and villages offer a hopeful solution of the problem of congestion.
9. Better administration, not legislation, is required.
10. The main faults in the people's houses depend on their habits, characters, and intelligence. Practical education is the most important factor in improvement.

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ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.—The Science Scholarships of £150 and £60 have been awarded respectively to William Thomas, B Sc. Lond., of St. Bartholomew's Hospital, and to F. Molina, of St. Thomas's Hospital. The Scholarship in Arts has been awarded to Ailwyn H. Clarke, of Haileybury College.

THE HEREDITARY TENDENCY TOWARD TWIN-BEARING, AND THE INFLUENCES AIDING IN THE DETERMINATION OF SEX.

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ROUGHLY speaking, 24 patients out of every 2500 that I see have once or oftener given birth to twins—a proportion, that is, of about 1 in 104; and regarding the existence of an hereditary tendency towards twin-bearing there can be no doubt. The following is a fairly representative 24 group. It speaks for itself, as in three only of these cases was there no history of twins either on the female or the male side, and in one or more of those it is quite possible that the default may have been due to ignorance.

1. Aged 44 years. Married twice. Has had five children; twins once (boy and girl). All the children are by the first husband. Conception has never taken place through the second husband. History: Mother of patient had twins; wife of mother's brother had twins twice; daughter of mother's sister had twins twice; two cousins of patient (father's side) had each had twins.
2. Aged 29 years. Married twice. Has had four children; twins once (two girls). All these children are by the first husband. She has not as yet been impregnated by the second husband, but she has only lived one year in wedlock with him. History: Two sisters of patient had twins; mother of patient had 13 children, all single births.
3. Aged 44 years. Has had six children; twins once (two girls); the other four children are boys. History: None of twins.
4. Aged 23 years. Twins once (two girls). History: Sister of patient's mother had twins.
5. Aged 28 years. Has had four children; twins once (two girls). History: Mother of patient had twin girls once, but patient is not one of these.
6. Aged 32 years. Has had four children; twins twice (two girls, and boy and girl). History: Wife of brother of father of patient had twins.
7. Aged 40 years. Has had 12 children; twins once (two girls). History: Sister of patient had twins twice; wife of brother of father of patient had triplets.
8. Aged 37 years. Has had five children; twins once (boy and girl). History: Sister of mother of patient had twins.
9. Aged 50 years. Has had eight children; twins once (two girls). History: Sister of patient had twins; mother of father of patient had twins (boy and girl), and the father of patient was one of these.
10. Aged 32 years. Has had three children; twins once (two boys). History: Mother of husband of patient had twins twice, but the husband is not one of these.
11. Aged 41 years. Has had eight children; twins once (boy and girl). History: Sister of patient had twins; wife of brother of husband had twins.
12. Aged 37 years. Has had eight children; twins once (boy and girl). History: Sister of mother of husband had twins.
13. Aged 24 years. Has had four children; twins twice (two girls and boy and girl). History: Mother of patient had twins; mother of mother of patient had twins; mother of father of patient had twins.
14. Aged 33 years. Has had three children; twins once (boy and girl). History: Mother of patient had twins twice; sister of mother of patient had twins twice; sister of mother of mother of patient had twins once.
15. Aged 26 years. Has had two children; twins (boy and girl). History: Sister of patient had twins.
16. Aged 46 years. Has had two children; twins (boy and girl). History: Husband of patient is a twin with a girl; sister of patient had twins.
17. Aged 55 years. Had had two children; twins (two girls). History: Mother of husband had twins, but husband is not one of these.
18. Aged 34 years. Has had six children; twins once (two girls). History: Mother of husband had twins, but husband is not one of these.
19. Aged 27 years. Has had three children; twins once (two boys). History: Sister of husband had twins.
20. Aged 44 years. Has had 17 children; twins three times (boy and girl twice and two girls). History: None of twins.
21. Aged 36 years. Has had five children; twins once (two boys). History: None of twins.
22. Aged 35 years. Has had three children; twins once (boy and girl). History: Mother of husband had twins, but husband is not one of these.
23. Aged 42 years. Has had four children; twins once (two girls). History: Mother of husband had twins, but husband is not one of these.
24. Aged 26 years. Had had two children, twins (boy and girl). History: Mother of patient had twins, but patient is not one of these; mother of mother of patient had twins, but mother of patient is not one of these.

In this group it will be observed there are 28 sets of twins, as one patient had borne twins three times and two others had each had twins twice. The twins in 13 instances are boy and girl, in 12 they are two girls, and only in 3 are they two boys. The aforesaid 28 confinements produced altogether 37 females and 19 males, a proportion, that is, of practically 2 females to 1 male; and this, I would remark, is fairly constantly the relationship of female to male births as a result of twin conceptions. This is a noteworthy phenomenon, since in all European countries, whether the legitimate and illegitimate births be computed separately or together, the total annual number of male births always exceeds that of females, and this has been a constant revelation year after year in northern and southern countries alike. In our own case, in England and Wales the total male and female births during the year 1907 were respectively 467,728 and 450,314, or proportionally 103 or 104 males to every 100 females. The percentage of males in excess of females is now rather lower than it was years ago. If we take the total illegitimate births in England and Wales during the year 1908 we note a similar condition of affairs, for the male and female births under such circumstances were respectively 19,025 and 18,506, or roughly 3 per cent. more males than females. In countries, however, where polygamy prevails this relationship of male to female births is reversed, for we are assured that polygamy produces about two female births to every one male. This relationship, it will be observed, corresponds closely with that noted as a result of twin conceptions.

In the case of the human race and the higher animal kingdom we are nevertheless driven to the conclusion that there must be some force or forces at work which tend to balance the relationship of male to female births. For more than 2000 years philosophers and physicians alike have diligently endeavoured to seek out and elucidate these forces, but so far their efforts have been attended with practically no success, and I am confident that this has been a blessing and not a misfortune, for it is more than probable that if we should ever succeed in disclosing the secret of this stable equilibrium of the sexes the utilisation of the knowledge would be fraught with evil rather than good to humanity, and might even lead eventually to the extermination of the human race. In a few cases where, for example, a crown was at stake a fabulous price and great sacrifice might be paid and made to ensure that the result of a given conception should be a male progeny, but the indiscriminate use of any such power would undoubtedly be a curse rather than a blessing, and would not, as some are disposed to believe, conduce to domestic happiness.

We, as the philosophers and physicians of old were, are familiar with the fact that in the case of the majority of animals, eggs do not develop unless spermatozoa enter them, and our knowledge on this matter is more precise than theirs was, inasmuch as we know that one spermatozoon only suffices, and is, in fact, necessary for the fertilisation of an egg. At one time it was believed that the sex of the offspring depended upon the number of spermatozoa which penetrated the egg, being male if many entered and female if a less number were included in the egg. It is now, however, conceded that polyspermy leads invariably to the production of monsters, and that natural fertilisation is always effected by one spermatozoon only.

Quite recently Herbst, Driesch, Loeb, and others have shown that it is possible to fertilise the eggs of some of the lower animals by physico-chemical agencies alone, and these scientists have even produced living larvæ by the action of chemical substances alone—without the intervention of spermatozoa at all—on the unfertilised eggs of sea-urchins, star-fishes, and a number of annelids and moluscs. In consequence of the startling results obtained by chemical fertilisations, by artificial parthenogenesis, fresh interest has been aroused in the question of the determinants of sex and in the transmission of the hereditary tendency to beget twins.

In the case of man we recognise two different types of twins—twins which are so unlike each other that it is difficult indeed to believe that they could possibly have been begotten at the same time, and these twins may or may not be of the same sex; but there is the other type in which the twins resemble each other closely, and these invariably are of the same sex. We are induced to believe that the latter result from the splitting into two of one egg through the influence of one spermatozoon, but it is difficult to understand why twins thus produced are not identical both physically and mentally.

Twins are begotten by the same seminal emission but they may be produced in consequence of the splitting of one ovum after fertilisation into practically two ova, or they may result merely because two ova are extruded from one Graafian

vesicle, or again because of the simultaneous rupture of two Graafian vesicles and the consequent extrusion of two ova fit for fertilisation. Now the hereditary tendency to the production of twins is in my opinion transmitted about equally by males and females, and as the phenomena of heredity must be connected with a substance possessing a definite chemical and molecular constitution it is highly probable that the majority of twins are produced from one ovum and one spermatozoon. A woman who has a tendency to bear twins may give birth to twins of the same sex at one time and to twins of a different sex at another time, but conjoined twins are never of the opposite sex. When twins are produced from one egg the first two cells into which the egg segments after fertilisation become separated from each other, and independently of each other they thereafter proceed to segment and develop.

In the case of the sea-urchin's egg this separation of the first two segments has been brought about by a change in the chemical constitution of the sea-water in which the eggs are hatched. Herbst, for instance, observed that if the fertilised eggs of the sea-urchin were put into sea-water which had been deprived of its calcium the cells into which the egg segmented had a tendency to segregate and fall apart. Driesch further remarked that sea-urchin eggs after fertilisation if specially treated with sea-water freed from lime had a tendency to produce twins, and Loeb noticed that the tendency to produce twins could be caused not only by an absence of lime but by an absence of either potassium or sodium from the sea-water. Generalising from certain experiments Loeb goes so far as to say, "If the liquids which surround the human egg a short time before and after the first cell division are slightly acid and at the same time lacking in one or more of the three important metals, calcium, sodium, and potassium, then the conditions for the separation of the first two cells and the formation of identical twins are provided."

If we accept this tenet then we are forced to conclude that there is in the human race practically no hereditary tendency to the production of twins. Judging, however, from my own clinical facts and experience I am convinced that the production of twins in the human female is not a chance affair, and has nothing to do with the deficiency of lime or potash or soda salts in the blood or generative tissues of the mother, for it is well known that deficiency of these salts so alters the sensitivity and irritability of the Fallopian tubes and uterus that well-marked symptoms make their appearance therefrom and abortion is apt to ensue. If, therefore, twin productions were in any way associated with deficiency in the amount of calcium, or potassium, or sodium in the maternal blood, twin productions would more commonly result in abortions than they do.

In dealing with the question of the causation of sex we must at the outset recognise the fact that not only in the case of individual women but in the case also of individual female animals we find a proneness to the production of one sex of progeny rather than the other; in one case the proneness may be especially female, whilst in another it is especially male. Of all the forces, however, which it is believed play an important rôle in the determination of sex the influence of food is that which has been and still apparently is most accredited, but in this case, as in that of the question of the production of twins, the evidence adduced has been derived chiefly, if not entirely, from experiments upon lower animals and especially upon insects. The bee is a favourite instance, as it is alleged that the fertile female or queen bee is a product dependent entirely upon the pabulum supplied. Again, in the case of tadpoles it has been remarked that by offering a highly nutritious food to these aquatic animals more females than males are produced.

Experimental evidence of this character has led some authorities to affirm that the primordial germinal cells are sexually indifferent that they are neither fixedly male nor female, but that evolution of sex depends upon extrinsic conditions, and that food-supply is the most important of these conditions. Nutrition, of course, involving as it does chemical changes, exercises a powerful influence upon all organic phenomena, but so, too, does temperature, and in the case of many insects it is impossible to say whether the evolutional changes taking place may not be dominated as much by the influence of temperature as the influence of pabulum. Under equal temperature conditions, experiment nevertheless appears to favour the view that well-fed females tend to produce a preponderance of female offspring and badly fed females a preponderance of male progeny.

On this nutritive dogma some authorities have even gone so far as to affirm that in the case of the human female if fertilisation occurs immediately after menstruation the product is likely to be a male, whereas if fertilisation occurs immediately before an expected menstrual period the product is likely to be a female, for, say they, menstruation is a katabolic or destructive process, and the ovum fertilised immediately after menstruation is in the early days less liberally fed than an oosperm which becomes harboured in the uterus before an expected menstrual period. No one, however, who has devoted any attention to the diagnosis of early pregnancy can for one moment believe that the relationship of the time of fertilisation to that of menstruation has anything to do with the determination of the sex of the progeny.

Under ordinary circumstances menstruation is always suspended in consequence of the occurrence of pregnancy, and we are accustomed to reckon the stage of any pregnancy as well as the duration of gestation from the date of the cessation of the last menstruation. To all intents and purposes it is possible to diagnosticate the existence of uterine pregnancy in every case 14 days after the date of the first suspended menstrual period, but the uterus containing an ovum impregnated only 18 or 19 days before a physical examination is made is not likely to be as big as a uterus containing an ovum impregnated 39 or more days prior to our examination, consequently as early as 14 days after the date of the first suspended menstruation the clinician from the size of the uterus should be able to say whether the product of conception is destined to be male or female. No one has yet been able thus to predict the sex *in utero*, nor is anyone ever likely to be able to do so, for it is very evident that the relationship of the time of fertilisation to that of menstruation has nothing to do with the causation of sex. Moreover, as we reckon the duration of gestation from the date of cessation of the last menstruation if the time of fertilisation had anything to do with the determination of sex, an ovum impregnated 14 or more days later than another ovum would be harboured 14 or more days longer, and the duration of gestation in the case of a female child would invariably be greater than in the case of a male, and of this we have no evidence.

If we investigate some of the other theories these too are found to be as erroneous as that which we have just discussed. Take, for example, the question of the part played by the right or the left ovary. At one time it was believed that the spermatozoa of the left testicle had an affinity only for ova from the left ovary and spermatozoa of the right testicle for ova from the corresponding ovary and that the sex of the progeny depended upon the ovary from which came the ovum which was fertilised. Everyone with extensive gynæcological experience, however, has remarked that women with one ovary are just as likely to give birth to male and female children as women who are in possession of both ovaries. To the part played by polyspermy we have already referred.

The question of the causation of sex is, in fact, to us as great a mystery as it has ever been.

Gordon-square, W.C.

THE DISCRIMINATION OF COLOUR.[1]

BY F. W. EDRIDGE-GREEN, M.D. DURH., F.R.C.S. ENG.,
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(*From the Institute of Physiology, University College.*)

IN a paper on the relation of light perception to colour perception,[2] and in previous writings,[3] I have stated that if a portion of the spectrum be isolated it will appear monochromatic, the length of the monochromatic region varying with the intensity and wave-length of the light and the colour perception of the observer. Most normal-sighted persons make about 18 such divisions in a bright spectrum.

In a paper in the Proceedings of the Royal Society,[4] Lord

[1] A paper read before the Royal Society on May 18th, 1911.
[2] Proceedings of the Royal Society, B, 1910, vol. lxxxii., p. 458.
[3] Colour Blindness and Colour Perception, International Scientific Series.
[4] December, 1910.

Rayleigh, whilst agreeing that the facts were as I stated in the conditions described by me, expressed the opinion that he could distinguish between the wave-lengths included in a monochromatic division to the extent of discriminating between the colours of the two D lines. Lord Rayleigh kindly lent me the colour box with which he had made the experiments, and, on repeating them in the manner described by him, I arrived at similar results. I hope, however, to be able to show that the results obtained by Lord Rayleigh were due to the admixture of small quantities of white and coloured light and to certain physiological influences which had not been taken into consideration, and which prevented him from arriving at a correct interpretation of the colours.

If a prism, even of the finest polish, be examined with a strong light against a dark background, numerous small particles and irregularities of the surface, which irregularly disperse the light, will be seen. The reflections from the sides of the prisms, lenses, and sides of the box have also to be taken into consideration. The amount of this irregularly dispersed light is small, but is a very important factor taken in conjunction with other facts. It is necessary, therefore, in order to get rid of the greater part of this irregularly dispersed light to allow the light included in a monochromatic region to pass through a second aperture, such as that in my spectrometer. When this is done, I have found it impossible by any method which I have adopted to distinguish between the various waves included in the monochromatic region. I have magnified the image of this region with eye-pieces of different power, making a corresponding increase in the light to make up for the loss of luminosity caused by the magnification. I have also obstructed the central portion of the monochromatic region with a screen, and the remaining portions have still appeared monochromatic. The most conclusive experiment, however, is the examination of the monochromatic region with an achromatic double image prism, the intensity of the source of light being increased as before. By this method two rectangular monochromatic fields are seen, and can be arranged so that they are side by side and just touch. The portion belonging to the red side of the spectrum of one can be made to touch the portion belonging to the violet side of the spectrum of the other. This position is therefore most favourable for the detection of any difference, and yet I cannot detect any, neither can any other observer to whom I have shown the experiment. The experiment can be observed objectively in the following manner: an arc light being used for the illuminating source, a pure spectrum is obtained; a portion of this spectrum, forming a monochromatic region, is allowed to pass through an adjustable slit. Two images of this monochromatic region can be thrown with the aid of a double image prism upon a screen and made of any required size. The varying size of the monochromatic regions with different persons can by this means be demonstrated to a large number.

Another point which I found with Lord Rayleigh's apparatus is the difficulty of obtaining both fields of similar intensity. The slightest movement of the eye also causes an alteration in the number and kind of rays which enter the eye. When two fields are of unequal intensity the physiological effect of contrast is evoked, which causes an erroneous judgment of the colours under observation. In fact, weak orange light may, by contrast with bright red light, appear green. In making experiments on the discrimination of colour, the rays of light from the two regions to be compared should strike the eye at as nearly as possible the same angle; the fixation point of the eye should be in the centre between the two regions, so that one region may not be more influenced by the pigment of the yellow spot, or the blood in the retina, than the other, and that equal amounts of light from each region enter the eye.

The importance of the irregularly dispersed light in association with contrast in dealing with questions of colour has been overlooked by many physicists, as several instruments have been constructed for the investigation of colour and colour-vision which are defective on this ground. It was this irregularly dispersed light, as shown by Helmholtz,[5] which caused the apparent change in the colours of the spectrum observed by Brewster, and which led him to suppose erroneously that there were three kinds of solar light.

[5] Poggendorff's Annalen, 1852, No. 8.

In conclusion, when special means are taken to have as pure a spectrum as possible, I can find no method which will enable me to distinguish the colours in a monochromatic region. I therefore regard the appearance of the monochromatic region as a fundamental physiological fact, as I stated over 20 years ago.

Willesden Green, N.W.

THE PATHOLOGICAL RELATIONSHIP BETWEEN THE APPENDIX CÆCI AND THE UTERINE ADNEXA.

BY J. BIRT, L.R.C.P. EDIN., M.R.C.S. ENG.

(*With a Note on the Operation by* T. CRISP ENGLISH, M.B., B.S. Lond., F.R.C.S. Eng., *Senior Assistant Surgeon to St. George's Hospital, &c.*).

A VERY interesting and instructive address was published in THE LANCET of July 29th by Dr. H. Macnaughton Jones on the Pathological Relationship Between the Appendix Cæci and the Ovary and Tube, with notes on the various theories as to the course of the invasion of the infecting microbe, and in relation to this subject the following case may be of some interest.

The patient who was married, but with no children, had had four previous illnesses suggestive of appendicitis, necessitating each time rest in bed for a week or more (extending over a period of about 15 years, with intervals of about four years between each). Her catamenia had from the very first been attended with pain and some degree of menorrhagia. Chronic ovarian pain had existed on the left side since the age of 17 years. She was curetted seven years ago for menorrhagia, dysmenorrhœa, and intercurrent leucorrhœa, and her periods from that time had been quite regular up to the middle of May of this year, when there was metrorrhagia, the period lasting about 12 instead of, as was usual with her, five or six days. She had had some troublesome pain in the right thigh from the crest of the ilium to the knee for four months.

On June 9th, 1911, I was asked to see her, and found her in bed complaining of pain low down in the right side of the abdomen, which had troubled her very much for some days, and which was greatly aggravated by the act of defæcation. Her expression was slightly careworn, and the colour aspect of her face greyish. There was marked tenderness over an area, the centre of which was halfway between the umbilicus and the right superior iliac spine, and downwards towards the pubes. There was, however, no rigidity of the abdominal muscles, nor had there been any vomiting, and the abdominal movements in breathing were normal. The temperature was 102° F. and the pulse 96. On vaginal examination the uterus was freely moveable and the cervix normal, but a very tender, thick knotty cord was to be felt in Douglas's pouch. Absolute rest in bed was ordered and a fluid diet, together with a hot douche of 110° F. to be used twice daily.

On June 12th the patient woke up in the early morning with excruciating pains in the right lower abdomen. The tenderness over this area had greatly increased, but there was still no muscular rigidity. The temperature was 101·5° F. Frequent hot fomentations were applied and the douching was discontinued. On the next day (the 13th) menstruation started. The temperature and general conditions were not altered, but the pain was considerably better; in fact, it had commenced to be less on the first application of the fomentations.

The various signs and symptoms suggested to me that the appendix or ovary and tube, or all of them together, were affected, and it seemed to me that an exploratory cœliotomy should be done, but that it would be desirable, if possible, to wait till menstruation had ceased and also for the advent of a quiescent condition of these local troubles. I communicated with Mr. T. Crisp English, and it was decided to adopt the above course and the patient was very carefully watched. She practically slightly improved and remained much in this condition from June 14th to the 21st. The pain had gone, but the rather marked tenderness remained, and the temperature varied from day to day between 97·8 and 99·2, with a pulse between 84 and 96. On the 22nd, menstruation having stopped after a duration of nine days,

Mr. Crisp English met me in consultation and examined her thoroughly. He concluded that a cœliotomy should be done and that whatever was found likely to be the cause of the mischief should be removed. It was also decided to wait a few days more before operating, the chief reason being the hope of the inflammatory condition becoming still more quiescent. On June 28th Mr. Crisp English operated.

Note on the Operation.—"The patient was placed in the Trendelenburg position, and an incision 3 inches in length was made through the lower part of the right rectus muscle. The appendix was first examined, and was found to be thickened and adherent; two stercoliths were felt in its distal half. The wound was then enlarged, and a hand was passed into the pelvis. The right tube was distended and greatly thickened; with the ovary it formed a large inflammatory mass firmly adherent to the rectum and posterior wall of the pelvis. The left tube and ovary and the uterus were normal. The right tube and ovary were then removed. The uterine end of the tube was first divided between two ligatures, and during the process of removal an encysted abscess lying between the ovary and the rectum was opened. The walls of this abscess were carefully dissected away. The appendix was subsequently amputated, its proximal end being crushed with the crushing clamp, and the stump being invaginated with a Mayo's appendix tucker, and buried with a purse-string suture of fine silk. A split drainage-tube containing a strand of gauze was then inserted into Douglas's pouch, and the wound was closed with through-and-through sutures of silk-worm gut."

The condition of the patient on the afternoon of the operation was one of rather marked collapse, and there was a good deal of vomiting which lasted four days, but which may have been to an extent of nervous origin, as the patient had very strongly anticipated it. With this exception, however, she made a rapid and uncomplicated recovery, and after the fourth day slept and took her food well. The drainage-tube was removed on the twelfth day, and the only trouble which was at any time in evidence was some constipation, which was, nevertheless, overcome by a daily enema and some senna tea at bedtime.

Remarks.—The history of the case and the pathological condition of the organs affected seemed to point to the appendix being the original source of infection, especially in view of the obvious evidence of recent inflammation in the appendix, and the fact that the left ovary and tube were normal. The organisms may have travelled directly along the appendiculo-ovarian ligament (Clado), which is described in Dr. Macnaughton Jones's address, or by some other more or less direct route. Dr. Macnaughton Jones states at the end of his address how necessary he considers it in an operation of this nature that due regard be paid to its severity and necessary prolongation. In the above case, however, the patient did extremely well, and in 24 days after the operation was sitting up in her room in excellent health and spirits.

Belgrave-road, S.W.

MENINGITIS FOLLOWING MEASLES.

BY C. A. BASKER, M.B., B.S. LOND.,
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DURING the first half of this year, when an epidemic of an unusually severe form of measles was prevalent, six children suffering from meningitis were admitted into Addenbrooke's Hospital. In one of the patients the disease was primary pneumococcic. The other five had symptoms of post-basic meningitis. In three of these the cerebral symptoms followed measles, one a week, one six weeks, and one eight weeks after the rash had been seen. In all five the onset of the disease was sudden; most of the patients vomited and rapidly lost consciousness, and retraction of the head and Kernig's sign were well marked. The temperature was usually not above 101° F., and the pulse and respirations were irregular. In three cases improvement followed and seemed to be due to lumbar puncture. One patient recovered completely, although meningitis was diagnosed it was not proved, as a examination of the cerebro-spinal fluid was sterile and showe no excess of cells. The other four patients died and the brains were examined, and all showed a meningitis alike i appearance. There was a greenish-yellow exudation of lymp into the pia arachnoid membrane at the base of the brai with more fluid than usual in the ventricles. In the cerebro-spinal fluid of one patient (who had not had measles recently) the meningococcus of Weichselbaun was found, and in another diplococci were seen in the exuded lymph at the base of the brain.

On account of the similarity of the clinical course of the disease and of the appearance of the brains after death it is not improbable that the meningococcus was responsible for the meningitis in all the cases. Whether the measles disposed to, or whether it was accidentally followed by, the meningitis is uncertain, but in either case the occurrence of nervous symptoms after measles is interesting on account of its rarity. The following is an account of the cases:—

CASE 1.—Boy, aged 6 years, under Dr. L. Humphry. Admitted on February 27th, 1911; discharged on April 15th.

History.—Eighteen days ago patient was taken ill and was sick. He had a slight rash that was diagnosed as measles. Twelve days ago he seemed sleepy and has been getting worse since. Once or twice he has been unconscious.

Feb. 28th: Lumbar puncture: two drops of fluid came away that were sterile and contained no cells.

Examination.—March 1st: Temperature 100° F., pulse 130, respirations 34. The patient looks healthy. He is irritable. He recognises no one, and when spoken to cries out. The pupils are dilated. Slight retraction of the head is present. Tache cérébrale is feebly marked. There are râles at both bases and also in the right axilla. Kernig's sign is present. The spleen is not palpable. No optic neuritis.

March 2nd: Patient much better. He speaks now and then but not distinctly. When he attempts to catch hold of anything with his right hand he puts it to the left of the object. 3rd: Kernig's sign is still present; patient can talk. The patient is still irritable. (The patient recovered completely. He came to the hospital three weeks after discharge and seemed quite normal as regards intelligence.)

March 7th: A swab from the throat showed the presence of pneumococcus, M. catarrhalis, and M. tetragenus.

A brother of the above patient, aged 1 year and 2 months, was admitted on March 1st, 1911, suffering from pneumococcal lobular pneumonia. He had had measles 10–14 days before this.

CASE 2.—A boy, aged 4 years, under Dr. Humphry. Admitted on May 6th, 1911; died on May 28th.

History.—In October, 1910, the patient had scarlet fever. At the end of February, 1911, patient had measles. About three weeks ago he started to lose his appetite. For six days he has been unable to keep any food down. For four days the patient has had headaches and has slept very little and he has screamed. The bowels are constipated. There has been no aural discharge.

Examination.—Temperature 101·2° F., pulse 128, respirations 32. Patient is flushed and drowsy, and now and then he shrieks out. He has a slight cough. The pupils are equal and react to light, no ocular paralysis, no nystagmus. Photophobia is present. Epigastric and abdominal reflexes are present. No optic neuritis. Right knee-jerk is absent and left knee-jerk very slight. Plantar reflex is flexor. No retraction of the head. Kernig's sign present. No aural discharge and tympanic membranes normal. There are a few small glands to be felt in the neck. The liver and spleen are not palpable.

May 7th: The patient slept well last night, but cried out about every ten minutes. 11th: Patient still drowsy. 12th: Patient seems a little better, his right arm is flaccid but not paralysed, and the right corneal reflex is absent. In the evening he had a fit lasting a few minutes. In it he had rapid movements of flexion and extension of the right forearm. Now and then there were a few similar movements of the forearm. 13th: Lumbar puncture; three test-tubefuls of clear fluid under pressure came away. Child more comatose, squint present. Now and then the right pupil is larger than the left. Kernig's sign more marked. Tache cérébrale present. 16th: Lumbar puncture; many cells seen—polymorphonuclear 42 per cent., lymphocytes 58 per cent. No organisms seen, none grown in cultures. 17th: Patient had a fit. 20th: Slight optic neuritis, more marked in the right eye than the left. 27th: Patient worse, much retraction of head. Kernig's sign present in left leg, not in the right. Pupils rather dilated, eyeballs wander together in all directions. Face gets flushed very easily. Child is very wasted. 28th: Death. Temperature before death rose to 106·4°.

Necropsy.—Brain: Convolutions flattened. Pia arachnoid at base of brain thickened and greenish yellow; this condition extends into the Sylvian fissure and superior surface of cerebellum. Ventricles are distended with fluid. Brain substance normal. No sign of tuberculous disease in the body. No growth in cultures from material removed from base of brain.

CASE 3.—Girl, aged 10 years, under Professor J. B. Bradbury. Admitted on May 23rd, 1911; died on June 1st.

History.—Measles six weeks ago. The child recovered except for a headache. May 15th: Patient had pain in the left ear. Last night she had a fit and the fit has not left her and she has been unconscious since the fit started. In the fit the hands were drawn up and the legs extended. For the past few days the child has been sleepy. The bowels have been constipated but diarrhœa set in this morning.

Examination.—Temperature 101·2° F., pulse 136, respirations 24. Child lies unconscious in bed, curled up, and she is flushed. The respiration is irregular. Nasal feeds have to be used. Eyes: Pupils dilated, reacting but little to light, lateral nystagmus and drooping movements of eyelids present. No squint, no optic neuritis. Membrana tympani normal. Jerks of upper extremity, abdomen and knee absent. Plantar reflex is flexor. No retraction of neck. Kernig's sign present. Tache cérébrale is present. Respiratory and circulatory system normal. The liver and spleen are not palpable.

May 23rd: Lumbar puncture—three test-tubefuls of clear fluid removed, a few lymphocytes present, no organisms seen microscopically. No growth on culture. 24th: Nystagmus disappeared. 25th: Child is conscious, she cries out frequently. She says she has no headache. She can feed by the mouth. 26th: Child is conscious and very irritable. Pupils are dilated, and do not react to light, and now and then squint is present. Knee-jerks can just be obtained. Kernig's sign is well marked. 28th: Lumbar puncture — no fluid removed. 30th: Child unconscious again. Some paresis of right arm and leg. Head is

not retracted and Kernig's sign is not so marked. A little twitching in left arm and leg is present. Plantar reflex is extensor on the right side. For two to three days the patient has been drowsy. 31st: Athetosis of left hand started. The athetosis is abducted and the forearm flexed and athetotic movements take place on the left side of the head. June 1st: Patient became very cyanosed at 1 P.M. and died at 3 P.M. Just before death lumbar puncture, two test-tubefuls of fluid removed. Very few lymphocytes—much albumin.

Necropsy.—Basal meningitis, exudation of yellowish lymph at base not spreading into Sylvian fissure but spreading a little over upper surface of cerebellum. Brain œdematous, ventricles contained much fluid. Direct examination of lymph showed a diplococcus, but there was no growth in broth. Collapse of lower portion of right lung. The right bronchus was filled with a thick white material. No sign of tuberculous disease anywhere in the body.

CASE 4.—Girl, aged years, under Dr. Humphry. Admitted on June 3rd, 1911; died on the 11th.

History.—No history of consumption in the family. Patient had measles 11 months ago and left pleuritic effusion eight months ago. The present illness started with sickness ten days ago and the child became constipated. There has been some headache. She has been drowsy five to six days. Of late she has wasted. There has been no rash.

Examination.—Temperature 99° F., respirations 20, pulse 80. The child is unconscious and lies curled up on her side, but she can take her feeds. The pupils are equal and dilated and react to light. The right eye is turned outwards. Tache cérébrale is present. There is no facial paralysis and no retraction of the head. Kernig's sign is well marked. Knee-jerks are absent and plantar reflex is flexor. There is the scar of an old perforation in the left tympanic membrane. There is an impaired note over the back of the left side of the chest. The heart is normal. The abdomen is retracted; the liver and spleen are not palpable. Lumbar puncture—fluid under pressure, two test-tubefuls removed; fluid clear, contained a little albumin, slight reduction of Fehling on prolonged boiling. Meningococcus cultivated from the fluid. Centrifugalisation—very few lymphocytes; no tubercle bacilli.

June 4th: Patient unconscious, divergent squint present at times; now and then there are nystagmoid movements. Slight retraction of head; abdomen not retracted. The margins of the optic discs are blurred. 6th: Child a little conscious; she speaks sometimes. The right pupil is larger than the left. 8th: Child is not so well. The pupils are widely dilated and do not react to light. Kernig's sign just present. Patient has a flushed face. Lumbar puncture—half test-tubeful removed. Many lymphocytes and a few polymorphonuclear cells present in the fluid; diplococci seen in fluid. 9th: Lumbar puncture—two drops of fluid removed. 10th: Child deeply comatose. Pulse and respiration irregular. Retraction of head and Kernig's sign absent. 11th: Death.

Necropsy.—Brain: The pia arachnoid in the interpeduncular space is greenish yellow and gelatinous and thickened. This condition passes into the Sylvian fissures over the cerebellum and medulla. There is an increase of fluid in the ventricles. No sign of miliary tubercles. Lungs adherent to the chest wall. Two bronchial glands contained small caseo-calcareous areas. Adhesions between upper surface of liver and diaphragm; on the latter were numerous white nodules.

CASE 5.—Boy, aged 11 years, under Dr. Humphry. Admitted on Feb. 11th, 1911; death on the 12th.

History.—Thirteen days ago patient fainted in chapel. He came home and was sick. The sickness continued for three days and he had great headache for a day or two. Soon after this he became delirious and lately has been noisy. He has had no retraction of the head. A cough has been present for a few days. During the past fortnight the bowels have been opened twice with enemata. Three round worms have come away.

Examination.—The patient has a flushed face, he lies in bed unconscious with his head a little retracted and knees drawn up. He is intolerant of light and is generally irritable. There is a scattered macular rash behind the ears and over the chest and back and down the back of the thighs. The hands are a little cyanosed. The eyeballs wander independently of one another, the pupils are rather dilated. The tongue is protruded to the right; it is very furred. Knee-jerks are absent. Plantar reflex is extensor on the right side. Kernig's sign is present. There is no aural discharge and no joints are painful. Non-consonating râles are present all over the lungs. The liver and spleen are not palpable. A lumbar puncture was performed. There were no organisms in the fluid and no growth took place on cultures.

Feb. 12th. Patient died

Necropsy.—An exudation of greenish-yellow lymph beneath the arachnoid in the interpeduncular space passing forward over the olfactory lobes, laterally into the Sylvian fissures, and posteriorly on the superior surface of the cerebellum. Increase of fluid over the vertex. The brain was examined microscopically by Dr. L. Cobbett, who said the disease was not due to tubercle. There was a large caseous gland at the bifurcation of the trachea and a few small nodules in the lungs which on examination were found to be tuberculous.

I wish to thank Professor Bradbury and Dr. Humphry, under whom the patients were in this hospital, for permitting me to publish these notes.

Cambridge.

A CONVENIENT METHOD TO TEST THE VISUAL FIELDS FOR COLOUR WITHOUT THE USE OF A PERIMETER

FOR APPLICATION IN CASES SUSPECTED OF INCREASED INTRACRANIAL TENSION.

BY TOM A. WILLIAMS, M.B., C.M. EDIN.,
MEMBRE CORRESPONDANT DE LA SOCIÉTÉ DE NEUROLOGIE DE PARIS, ET

IT was formerly supposed that inversion of the visfields for blue and red was pathognomonic of hyster especially when a contraction of the field for form w present in addition. Not everyone is yet acquainted wi the work of Babinski,[1] which has clearly shown that the perimetric examinations of hysterical patients as ordinarily conducted are redolent of suggestions, and that these very often influence the patient, so that the findings are not reliable except as indices of suggestibility. Thus, there is no characteristic visual-field type in hysteria.

But there are certain affections in which the visual field is characteristically inverted or interlaced. This happens whenever the intracranial tension is increased to the point where there is an interference with the functions of the neurons which conduct visual impressions. This manifests itself most particularly, clinically speaking, towards the periphery of the retina, where the sensibility is feeblest; so that, as Bordley and Cushing[2] have shown, the red is perceived even sooner than the blue on approaching the centre of the visual field of cases where the intracranial tension is increased by œdema of the brain, whether this is produced by a tumour within the cranium, by hæmorrhage therein, or by some constitutional condition resulting from chronic nephritis, diabetes, or other modification of the blood.

To measure this inversion or interlacement of the colour fields accurately a perimeter is, of course, required, but I have found that the inversion may be ascertained roughly by the following method: The patient sits with his back to a good light looking fixedly at a point in the distance. He is directed to signal as soon as he perceives any movement. The visual field is then approached by the observer's hand, which holds alongside and parallel two objects coloured of an intense pure bright red and blue respectively. After the patient signals, he is asked to signal again as soon as he perceives any colour, while the centre of the field is very slowly approached. The observer then stops the movement and asks what colour is seen. To corroborate, the movement is then continued until the other colour is also seen. In normal persons blue is always seen before red. If this is not the case increased tension may be suspected. In two recent cases, one of tumour and one of albuminuric retinitis, this method has been as positive as that with the perimeter.

If the techique is carefully performed, the test is quite a reliable one and is a useful addition to clinical methods. Indeed, Cushing believes that when inversion of visual fields appears in the case of a tumour operation should not be further delayed.

Washington, D.C.

[1] Ma Conception de l'Hystérié, Paris, 1906. See also various articles of the writer: New York Medical Journal, January, 1909; International Clinics, August, 1908; American Journal of Medical Sciences, August 1910, &c.

[2] Observations on Choked Disc, Journal of the American Medical Association, Jan. 30th, 1909.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

THE CURIOUS HISTORY OF A SWALLOWED PIN.

BY WILFRED BALGARNIE, M.B. LOND., F.R.C.S. ENG.,
SURGEON TO THE COTTAGE HOSPITAL, FLEET.

THE following case, where a pin was swallowed, probably some years previously, perforated the stomach, and became embedded in the peritoneum, seems of sufficient interest to be worth recording.

The patient, a woman, aged 35 years, consulted me in January of this year, complaining of symptoms of acute indigestion. She stated that she had had slight trouble since her "teens," but during the last five years her life had been more or less a misery to her. She had been treated in a hospital for gastric ulcer, and though she improved somewhat whilst lying in bed, her symptoms speedily recurred when she resumed work. The pain at times was so acute as to cause her, so she expressed it, to writhe on the floor, and she had frequent attacks of vomiting on taking food. When first seen she was struggling on with her work, though only able to swallow small quantities of milk, anything else causing much pain and vomiting. I offered to take her into the hospital, but she demurred at this, as her previous hospital experience, where the treatment consisted of rest and diet, did not encourage her to

submit to another similar course. She was very anxious to know if any operation could be performed, and she only consented to enter the hospital provided she was operated on.

On examination the patient was found to be fairly well nourished but somewhat emaciated about the face. There was nothing abnormal in the outline of the stomach, but towards the upper border, a little to the right of the middle line, there was marked hyperæsthesia, the patient shrinking at the slightest pressure, so much so as almost to suggest a neurotic condition. I asked my colleague, Mr. F. Bowreman Jessett, to see her with me, and he agreed as to the justifiability of an exploration, and subsequent gastro-enterostomy if necessary, and kindly offered his assistance at the operation, which was performed on Feb. 7th.

The abdomen was opened through the right rectus. The stomach was found to be healthy except for a small scar of about the size of a sixpence at the great curvature, 4½ inches from the pylorus. While examining the upper border I felt a hard substance in the gastro-hepatic omentum, then a sudden slight prick on my finger, and next moment a large black pin came into view, firmly embedded and completely hidden in a fold of the gastro-hepatic omentum. It lay vertical, with its point downwards towards the stomach. It was as brittle as spun glass and broke into four pieces during removal. It was rough and corroded, most of its substance having been presumably eaten away by the acid of the gastric juice. Nothing further was done, and the patient made an uninterrupted recovery, and in a few days was on ordinary diet (fish and chicken chiefly).

On making further inquiries, the patient stated that she was never conscious of having swallowed a pin, that she made a practise of never holding one in her mouth, and that this one must have been swallowed in her food. When the accident occurred it is impossible to say, but as she herself declared her symptoms had been much worse during the last five years, it is reasonable to assume that the unfortunate occurrence happened about that time.

The pin had evidently perforated at the greater curvature where the small scar was found, but why it took an upward course over the stomach instead of downwards is one of those mysteries which will always be associated with swallowed foreign bodies. The sensitive area previously mentioned during examination exactly corresponded with the site of the pin. It seems natural to suppose that when food entered and dilated the stomach and peristalsis commenced the organ would tend naturally to scratch itself against the point of the pin; pain and vomiting were most reasonable methods of protest by this long-suffering organ.

As this was not a set operation to "find the missing pin," I could not help congratulating myself that a chance prick on the finger led to the discovery of this cause of offence.

Winchfield.

THE OCCURRENCE OF ECLAMPSIA IN TWO SUCCESSIVE PREGNANCIES.

BY J. HOBART NIXON, M.D., B.S. LOND.

ECLAMPSIA is stated to occur about once in every 500 cases in general practice, though the statistics of lying-in hospitals show a frequency between 0·34 per cent. (Reinburg, Paris, 1905), and 1·17 per cent. (Newell, Boston, 1900). The occurrence of this condition twice in the same woman is illustrated by the following case.

The patient, aged 23 years, a primipara, commenced her labour at 6 P.M. After four hours of ordinary pains she became convulsed and had three fits before the arrival of the medical man. The uterine pains were found to be strong and rapid and the cervix well dilated. The patient was anæsthetised with chloroform and delivered with forceps. One fit occurred two hours after recovering from the anæsthetic. The urine at this time was practically solid with albumin after boiling. The amount of albumin gradually diminished daily and disappeared at the end of the third week of the puerperium, which lasted four weeks. There were occasional rises of temperature the result of infection, the maximum temperature being 103° F. The child was fed at the breast and is quite healthy at the present time.

After an interval of three years the patient became pregnant a second time. During the thirty-sixth week of gestation she wrote to say that she was told she became unconscious whilst partaking of tea with friends on the previous day, but could remember nothing about it, and she had completely lost all recollection of any events that occurred during that afternoon. On examining the patient she had slight œdema of the ankles, the skin was not dry, and the thyroid gland was slightly enlarged. There was no disturbance of vision, and the fundi were found to be normal. The patient did not complain of headache on this occasion. Her urine contained only a trace of albumin, and she passed two pints in the next 24 hours. The patient's condition was so good that I decided not to induce premature labour, but advised rest in bed with strict milk diet and a simple diuretic of potassii nitras, potassii acetas, and decoctum scoparii every four hours with a purgative pill of calomel and cascara every night. Her urine at the end of a week showed no trace of albumin, and she was feeling so well that she got up.

Three weeks later her second labour commenced at 10 P.M. with feeble pains and headache, which later became intense. She became unconscious about 9 A.M. next morning for about half an hour. On arrival I found a right occipito-posterior presentation, with the head well engaged and the cervix dilated. The pulse was full and bounding, the temperature 102°, and the patient, who had recovered consciousness, complained of severe headache and numbness in the legs. She volunteered the statement that "she knew she was going to have another fit because of pain in the stomach." After administration of chloroform the forceps were applied and the presentation was converted into an occipito-anterior by turning. After removal and re-application of forceps the head was delivered and the child born. The patient was kept under chloroform until about two pints of blood had been lost after the expulsion of the placenta, and on recovering consciousness she expressed her joy "at getting rid of that awful headache." Her puerperium was normal and there was no trace of albuminuria in the daily specimens of her urine.

The following features about the case are interesting. 1. The small quantity or absence of albumin in the urine gives support to the view, advocated by Whitridge Williams and others, that the total output of nitrogen should be estimated by Keldjahl's method, and the ratio between the urea and ammonia equivalent decided when diagnosis is uncertain. 2. The non-recollection of a convulsion or the incidents which had taken place some hours before—a not infrequent observation but one of important medico-legal value. 3. The aura of epigastric pain which might suggest epilepsy, but is a common and valuable symptom in eclampsia. 4. The good results which follow the free extraction of blood by not hastening the third stage. 5. The increased susceptibility to rises of temperature during the puerperium, indicating a diminished resistance to infection in subjects of eclampsia.

Chipping Norton, Oxon.

A CASE OF FRACTURE OF THE FIFTH LUMBAR VERTEBRA.

BY OWEN A. R. BERKELEY-HILL, M.A., M.B., CH.B. OXON.,
CAPTAIN, INDIAN MEDICAL SERVICE.

THE patient, a man, aged 23 years, unmarried, was brought into the hospital of the Cavalry School at Saugor, Central Provinces, on the evening of Dec. 8th, 1910, having fallen while riding and been rolled upon by his horse. On admission he complained of complete loss of power of the left lower limb and pain in the abdomen. The patient was quite unable to move the left leg or to bend forward. The slightest movement of the lower part of the body caused extreme pain.

On examination the patient was found to be suffering from a good deal of shock. No fracture of the pelvis or femur could be made out. The abdomen was very tender. There was also much tenderness over the sacrum. Sensation of the skin over the affected regions was normal. The knee-jerks were normal. On the following day the abdomen was swollen and very tympanitic. There was great tenderness over the abdomen, especially over the symphysis pubis. There was an inability to pass urine and the bladder was distended. Sixteen ounces of urine were drawn off by a catheter. The bowels were constipated, so an enema (soap and water) was given. Hot fomentations were applied to the abdomen, and the leg and thigh were gently massaged.

On the 11th much swelling with ecchymosis appeared over the upper part of the inner side of the left thigh. The patient was still unable to move the thigh. The bladder and rectum had recovered their tone.

On the following day—i.e., four days after the accident—a swelling appeared at the base of the spine between the crest of the os innominatum and the border of the sacrum on the left side of the body. The swelling fluctuated freely. It was about as big as a walnut. There was slight ecchymosis but no tenderness and no signs of inflammation. The patient was able to move his left limb and to bend forward in bed, but this with difficulty. The same treatment was adopted—fomentations and massage. On Dec. 15th the patient had so far recovered that he could get out of bed and walk about with a stick. The swelling over the adductor muscles was smaller, but the ecchymosis was increased. The swelling on the back covered an area as large as the palm of a man's hand. It obviously contained fluid, but there were no signs of inflammation. The patient's temperature was normal. On the 19th the patient could walk without any pain, but bending forward caused slight pain.

On the next day I saw the case in consultation with Colonel W. D. Sutherland, I.M.S., and we decided to insert a needle into the swelling over the sacrum. An exploratory needle was inserted and 5 c.c. of blood-stained serous fluid were drawn off. The fluid contained no pus cells. The patient's back in the affected region was then covered with adhesive plaster in strips which were carried round the body to meet over the symphysis pubis so that he wore a complete belt of strapping. The patient could then walk and move his legs without any pain or discomfort. An X ray photograph, kindly taken by Lieutenant W. L. Watson, I.M.S., electrical specialist for the Mhow Division, showed a distinct crack between the transverse process and the body of the fifth lumbar vertebra on the left side.

On Jan. 6th, 1911, the patient's back and "riding muscle" of the left leg were again strapped and gentle riding on horseback was begun. On Jan. 9th he was discharged as fit for duty, and except for some weakness of the adductor muscles of the left thigh he is perfectly well. The swelling over the sacrum has completely gone.

Saugar, India.

Reviews and Notices of Books.

Case Histories in Pediatrics. By JOHN LOVELL MORSE, A.M., M.D., Assistant Professor of Pediatrics, Harvard Medical School. Boston: W. M. Leonard. 1911. Pp. 314. Price $3.00.

THIS book represents a new departure in the methods of teaching diagnosis and prognosis. Its virtues are as conspicuous as its faults are transparent. Within the compass of some 300 pages 100 cases are arranged according to the following classification: diseases (1) of the new-born; (2) of the gastro-enteric tract; (3) of nutrition; (4) of specific infectious character; (5) of nose, throat, ears, and larynx; (6) of bronchi, lungs, and pleuræ; (7) of heart and pericardium; (8) of liver; (9) of kidneys and bladder; (10) of blood; (11) of nervous system; and (12) unclassified. The clinical history of each case is given in considerable detail. The evidence on which a diagnosis can be based is then marshalled in logical order; and, finally, a few words on prognosis are pronounced with *ex-cathedrâ* authoritativeness. In the great majority of cases, however, there is no reliable evidence that the diagnosis made is correct, or that the prognosis was borne out by subsequent events. The great merits of the book are that it teaches the beginner—and, for the matter of that, it might teach many a grey-haired practitioner—how to sift his evidence, how to distinguish between facts and speculations, how to give weight to important signs and symptoms, how to discount minor discrepancies in observed facts, and, finally, how to give the favour of the doubt to that which is common and usual rather than to that which, by reason of its rarity, is exceptional and improbable. We imagine that there are very few practitioners who school themselves in methods of this kind, and certainly many a mistake would be avoided if in each case all the available evidence for and against any particular diagnosis had been put down on paper, mentally visualised, and slowly digested. Knowledge is not knowledge unless it is available, and we contend that the greater proportion of the average medical man's clinical and scientific equipment is not available, through the lack of some such method of mental pigeon-holing as that which the author demonstrates in every page of this volume. Without further attempting to disclose the many merits of these case-histories, we will at once set ourselves to indicate certain of the blemishes which deprive this work of claims to greatness.

In the first place the literary style is abominable; it is vernacular and colloquial to a degree which outrages the English sense of propriety of expression. In the second place the design of the book is such that it fails as a work for arm-chair perusal, owing to the monotonous character of the case-taking, and it fails as a book of reference owing to inherent faults of arrangement and for the want of appropriate headings and variations in the type. Without any introductory headings or change of type we pass from Case 1 to Case 2, and so on throughout the entire series until we reach the end of the book. There is nothing to distract the attention, nothing to rest the eye. All is monotony, all is sameness, *toujours perdrix et toujours perdrix*, until for very weariness of good things we almost pray for something that is common, or even bad.

We understand that this work has met with a favourable reception in America and that a new edition is shortly to appear. We can only hope that the author will study the interests of those who are likely to apply the new edition to the purposes of reference, and make the headings of each case explanatory of what is to follow. We cannot conceive, by the way, that the book could in any directions act as a substitute for a series of clinical lectures, a possibility which, to our surprise, the author appears to entertain.

An International System of Ophthalmic Practice. Edited by WALTER L. PYLE, A.M., M.D., Philadelphia. *Therapeutics.* By Dr. A. DARIER, Paris. Translated by SYDNEY STEPHENSON, M.B. Edin., F.R.C.S. Edin., London. London: Rebman Limited. 1911. Pp. 444. Price 17*s.* 6*d.* net.

THIS volume inaugurates an "International System of Ophthalmic Practice," under the editorship of Dr. Walter L. Pyle of Philadelphia. Subsequent volumes are to include "Medical Ophthalmology," by Dr. Arnold Knapp of New York; "Ophthalmic Diagnosis," by Dr. Charles H. Beard of Chicago; "Pathology and Bacteriology of the Eye," by Messrs. E. Treacher Collins and M. S. Mayou of London; "Affections of the Orbit and Accessory Cavities," by Dr. Christian R. Holmes of Cincinnati; "The Examination and Refraction of the Eye," by the Editor; and a "Treatise on Ophthalmic Surgery." The scheme is therefore a somewhat elaborate one, and judging by the first volume of the series it is destined to occupy a prominent place in ophthalmic literature. The names of those responsible for the several volumes are well known and are guarantees of excellence of achievement.

Turning to the work before us, it is so much superior to the "Lectures on Ocular Therapeutics," previously published by Dr. Darier and reviewed in THE LANCET, that we suspect that the translator or editor, or both, have submitted the original to stringent control. Our acquaintance with Dr. Darier's writings has led us to discount some of the enthusiasm which he is in the habit of displaying for the latest drugs and methods. Here we find a sound exposition of up-to-date ocular therapeutics, in which all the encouragement to be derived from recent discoveries is fully

dwelt upon, yet with such reserve as to remove the suspicion of unjustifiable optimism. Whilst we may not always agree with the routine methods which the author advocates, we should certainly derive much help from his wide experience of new drugs and methods, and from his advice as to their employment in difficult and recalcitrant cases. In the first part of the book will be found just the information we require upon such topics as subconjunctival injections, serum-therapy, photo-therapy, electro-therapy, hydro-therapy, massage, and the more recently introduced drugs—analgesics, vaso-dilators and vaso-constrictors, mydriatics and miotics, silver compounds, and so on. In the second part the treatment of the various diseases of the eye and its adnexa is discussed in order. Perhaps our readers may have some diffidence in using argyrol lavage and protargol massage with apparently so little discrimination, but on the other hand they may be induced to give dionine a more frequent trial and to employ guaiacol more often when there is a suspicion of tuberculous disease.

We can cordially recommend the book to the ophthalmic surgeon as a very useful collection of second strings for his bow. There are some inaccuracies in the spelling of proper names and some more serious mistakes of fact, but they are minor blemishes which can easily be corrected in a new edition.

Animal Micrology: Practical Exercises in Microscopical Methods. By MICHAEL F. GUYER, Ph.D., Professor of Zoology in the University of Cincinnati. Chicago: The University of Chicago Press. 1910. Pp. 240. Price 7*s.* net.

THIS book, with a title unfamiliar to English ears, is the outcome of a ten years' experience by the author as instructor of classes in microscopical technique. It is not intended for the advanced specialist student, but hopes to be of use as a class text-book and as a guide to the independent individual worker, whether teacher or novice. The instruction is arranged as a series of practical exercises, giving full directions as to what the learner is to do with his material and reasons for his methods. A book which is intended for the unaided worker and is arranged on the above plan is met by two difficulties. It is apt to be overwhelmed by detail if it is to be of real service to an uninstructed novice, and is difficult to adapt to the needs of a specific course the aim of which is in any degree different from the one proposed in the book. It is to the credit of the author that the difficulties are to a large extent surmounted, more especially in the last respect, as the subjects selected are of such general importance that they must necessarily be dealt with in any course of histology. The work has a third aim. It is intended to serve as a reference book for teachers in the preparation of material for courses in elementary zoology, histology, or embryology, and in this aspect will prove of considerable value. The range of subjects covered is somewhat extensive. It not only deals with the usual histological methods—which occupy some 97 pages—but also treats of hæmatology, the examination of bacteria, and some embryological methods. The reconstruction of objects from sections forms the subject of a short chapter.

Nearly half the book is occupied by a series of appendices. The first of these is concerned with the microscope and its optical principles; the second contains the formulæ and uses of a considerable number of standard reagents; while the third, which will prove of much use to the individual worker and to demonstrators, gives a table of the tissues and organs required in a course of histology, the source from which they are to be obtained, and the methods of preparation to be adopted. The final appendix gives similar information for a general course in zoology.

The author's aim has been to produce a practical book, and he has taken care to include in his directions those small matters—the tricks of technique—which are so important in procuring good results. There is no doubt that to work through the course prescribed in this book would give the student a sound knowledge of the methods of histology. There is, of course, no attempt to describe the tissues or objects prepared. The book is well printed on good paper and is of attractive appearance.

LIBRARY TABLE.

Collected Papers by the Staff of St. Mary's Hospital, Mayo Clinic, Rochester, Minnesota, 1905–1909. London and Philadelphia: W. B. Saunders Company. 1911. Pp. 668. Price 24*s.* net.—This volume contains 65 papers by those connected with the famous Mayo Clinic. All the articles have appeared already in print in periodical literature and some have been read as papers before medical societies. It is clear that with so large a number of papers they can hardly be all of the same value, and it is equally clear that we can refer to only a few of the articles. The editor tells us that the chief reason for bringing them together in the present form has been the convenience of reference by those who have written them, and it was at first intended merely to print them for private distribution, but that many members of the profession asked to have the book published. When we consider the wealth of material available at the Mayo Clinic, the skill of its surgeons, and the care taken in the pathological examination of the cases, we can feel no surprise at the great advances in surgery which have been made there. Perhaps the most striking paper, if we must specially distinguish one amongst so many of great excellence, is that on the Surgery of the Large Intestine with a review of 100 resections, by Dr. W. J. Mayo. We may also mention a paper by Dr. L. B. Wilson on the Value of Sondern's Differential Leukocyte Resistance Line in the Diagnosis and Prognosis of Acute Appendicitis, and an article on Acquired Diverticula of the Large Intestine, by Dr. W. J. Mayo, Dr. L. B. Wilson, and Dr. H. Z. Giffin.

Formulaire: Consultations Médicales et Chirurgicales. By Professors G. LEMOINE, E. GÉRARD, E. DOUMER, and J. VANVERTS, of the Faculty of Medicine of Lille. Fifth edition. Paris: Vigot Frères. 1911. Pp. 1012. Price fr. 7.—This work is well known in France and the present edition has been brought thoroughly up to date. In the first part of the book the various drugs and their preparation are considered in alphabetical order, and some of the newest medicaments have been included, such as guipsine, hectine, and rhamnol. The chapters on opotherapy and serotherapy have been completely rearranged. Under each drug are given its properties, the indications for its use, and its therapeutical action, its dosage and pharmacology, also the preparations which are derived from it. The whole information is given clearly and concisely. The second part of the book is occupied with the treatment of particular maladies. The diseases are arranged alphabetically in order to facilitate reference and a uniform plan of description is adopted throughout. A definition of the disease is first given, then its etiology, then a brief account of the principal clinical signs, and finally the treatment. The therapeutical indications are carefully considered and numerous prescriptions are suggested which would be of great assistance in actual practice. Medical and surgical affections are included. 127 pages are devoted to the treatment of diseases of the skin and of venereal disorders, and the information found under this

heading will prove particularly useful to practitioners. Electro-therapy is also touched upon, and the various conditions likely to benefit by this method of treatment are duly mentioned. The remarks on diet are also worthy of attention. The last portion of the work deals with the various forms of mineral waters, and a short account is given of the principal spas in France and other countries. The authors may be congratulated on having produced a useful handbook.

Guide Pratique de l'Infirmière-Hospitalière et de l'Infirmier-Brancardier: Bandages Usuels—Premiers Soins d'Urgence—Relèvement et Transport des Blessés. Par le Dr. EDMOND MORIN. 200 figures dans le texte. Paris: Vigot Frères. 1911. Pp. 200. Price fr.2.25.—This little work, published under the auspices of the Union des Femmes de France, a department of the French Red Cross Society, is a very practical work on first-aid. The three parts into which the work is divided are indicated in the title-page. It is needless in these days to take up the argument in favour of a wide diffusion of the elementary principles and methods of first-aid. The book is very complete and it is fully and well illustrated, and should prove a serviceable manual for French-speaking persons intending to take up first-aid training seriously.

Beiträge zur Diagnostik der Inneren und Chirurgischen Pankreaserkrankungen. (*Contributions towards the Diagnosis of Medical and Surgical Diseases of the Pancreas.*) Von Professor Dr. ALBERT ALBU. Halle-a-S.: Carl Marhold Verlagsbuchhandlung. 1911. Pp. 108. Price M.2.80.—This is one section of a large collection of treatises on matters connected with the diseases of digestion and metabolism which is being issued under the auspices of a number of distinguished German physicians. A short account is given of the etiology and symptomatology of the pancreas, but the greater part of the book is devoted to the diagnosis. The disturbances in the digestion of proteids, fats, and carbohydrates are considered in turn, and the methods of investigation employed are described and discussed. A few pages are devoted to an account of the evidence in favour of an internal secretion of the pancreas, especially in connexion with some forms of diabetes. The latter half of the book deals with the special diagnosis of the different affections of the pancreas. The treatment follows briefly, and the book concludes with a fairly extensive bibliography of the subject. The book represents the present state of our knowledge on this somewhat difficult subject, and it will be of value especially to those who are studying the question of diagnosis of disease of the pancreas.

Tuberculosis as Regards Heredity in Causation and Elimination from Infected Herds. London: JOHN MURRAY. 1911. Pp. Price 1*s.*—This pamphlet will be read with interest not only by those connected with the breeding of live stock in this country, but also by medical men who know how important to the community all questions are which relate to the transmission of tuberculous infection. The statistical evidence with regard to the influence of heredity is examined carefully in the pamphlet, and reasons are given for maintaining that the hereditary transmission of a special predisposition to the disease is in the present conditions of breeding a factor of no serious importance. It is admitted that in a small proportion of cases the calves dropped by tuberculous cows are tuberculous at the time of their birth, but it is held to be improbable that the disease is ever handed on from the male parent to the unborn fœtus. The second part of the pamphlet describes in detail the methods by which tuberculosis may be eliminated from a tuberculous herd. The difficulties encountered in different circumstances are fully considered, and the principal causes of failure in attempts to get rid of the disease are pointed out.

JOURNALS AND MAGAZINES.

The Journal of Physiology. Edited by J. N. LANGLEY, Sc.D., F.R.S. Vol. XLII. Nos. 5 and 6. London: C. F. Clay, Cambridge University Press. July 15th, 1911. Price 8*s.* 6*d.*—In the paper on the Reversal of Reflexes, by Professor C. S. Sherrington and Mr. S. C. M. Sowton, it is made abundantly clear that the sense of the reflex which is excitable from one and the same afferent nerve may be reversed on alteration of some one definite factor in the conditions of the reaction, a typical example being chloroform. The reflex effect of stimulating afferent nerves, causing a rise of blood pressure, may be changed by a sufficient dose of chloroform from a rise of pressure into a fall. The authors have particularly examined the influence of chloroform upon reflexly exciting contraction of the knee extensor muscle of the decerebrate cat. So that just as pressor effects on blood pressure can be changed into depressor effects, so can the chloroform reversal be traced in reflexes expressed in the skeletal muscle. Miss A. E. Porter, discussing the identity of pepsin and rennet, says that Pawlow, in 1901, suggested it, while Hammarsten regarded the two ferments as independent. She has found that several commercial rennets were actively milk-curdling but antipeptic. On this and other grounds she supports Hammarsten's view that the two ferments are distinct and independent. Dr. H. M. Vernon's paper on the indophenol reaction is rather technical and cannot readily be abstracted. This reaction has been used as a test for oxidases in tissues, and occurs when tissues finely chopped are allowed to act on a mixture α-naphthol, paraphenylene-diamine, and sodium carbonate. By this means it is found that the heart muscle is the richest of all in oxidase. Dr. F. W. Edridge-Green's communication on Subjective and Other Phenomena connected with the Retina is a continuation of a previous paper and will be interesting to physiologists. Dr. E. P. Cathcart, studying the reflux from intestine to stomach, points out that Beaumont, in his classical observation on Alexis St. Martin, refers to the presence of bile in the stomach in certain circumstances—e.g., mechanical stimulation. Dr. Cathcart used dogs with a pre-pyloric fistula, and determined the effect of the introduction of solutions of glucose, tap-water, and 0·2 hydrochloric acid or sodium oleate into the stomach, on the regurgitation of bile into the stomach. When the bile does regurgitate through the pylorus it only enters the antrum pylori. This seems to favour the view that the pre-pyloric sphincter cuts off the pyloric part completely from the fundic part. It would appear probable that the stimulus which causes the regurgitation is the hyperacidity of the gastric contents of the antrum pylori. Mr. I. Feldman and Mr. L. Hill conclude that the increased production of lactic acid by the muscles is due to oxygen want, and that oxygen inhalation has a favourable influence, at any rate in part, in lessening the rise of acid concentration. Mr. H. Scott-Wilson's paper on the Estimation of Acetone in Animal Liquids deserves the attention both of physiological chemists and of clinicians. The original memoir must be referred to for details, but the author claims that his method of estimating acetone in animal fluids can be carried out on as little as 20 c.c. of normal urine, and that the whole estimation occupies only 40 minutes with an error less than 0·006 mg. of acetone. The average daily excretion of free and combined acetone in human urine is 2–4 mg., and there is a striking parallelism normally between the acetone and nitrogen excreted daily and even from hour to hour. Mr. G. C. Mathison's paper is primarily of pharmacological interest, and gives a full account of the action of potassium salts. When injected intravenously they cause a primary fall of blood pressure,

followed by a secondary rise, the fall being due to the action of the potassium on the heart, which undergoes dilatation and expels less blood, and there may be stoppage in diastole or heart-block. Intra-arterial injection of KCl causes an immediate rise of the blood pressure in the decerebate animal, the spinal animal, and the animal with the spinal cord destroyed. The rise is partly due to excitation of the vaso-motor centres and partly to a direct effect upon the vessel wall. Potassium chloride causes marked and immediate contraction of smooth muscle fibre—e.g., œsophagus and uterus of the cat. It would appear that in the cat potassium acts as an excitant to somatic and visceral nerve centres and to plain muscle. The paper of Mr. J. Crighton Bramwell and Mr. Lucas Keith on the Relation of the Refractory Period to the Propagated Disturbance in Nerve will be especially interesting to physiologists, as also will that on blood-gas apparatus by Mr. J. Barcroft and Mr. H. L. Higgins. The following are some of the titles in the Proceedings of the Physiological Society for June 3rd, 1911:—J. Argyll Campbell: The Action of Chloroform upon the Blood Vessels. R. A. Krause and W. Cramer: Sex and Metabolism. W. Cramer: On the Inactivation of Adrenaline in Vitro and in Vivo. C. R. Marshall: On the Mode of Action of Tetra-methyl-ammonium Chloride. Harold Pringle and John Tait: Anticoagulants on Frog's Blood, Part II. G. H. Clark: The Influence of Increase of Temperature upon Cardiac Inhibition. Harold Pringle: On the Presence of Secretin during Fœtal Life (Preliminary Communication). Proceedings of the Physiological Society for July 1st, 1911:—W. Burridge: Lactic Acid and Cardiac Muscle. W. Burridge: Nicotine and Curarised Muscles. George J. Burch: The Time-relations of the Negative and Positive After-effects.

The Medical Chronicle.—The July issue of this magazine deals mainly with an Epidemic of Acute Tonsillitis which presented peculiar features. Papers are contributed by Dr. J. W. Grange, Mr. W. Bruce Bell, Mr. John Rust, Mr. C. H. Tattersall, and Dr. J. R. Carver. The disease was very acute in onset, and was accompanied in some cases by an erythematous rash. It also exhibited as sequels arthritis, adenitis, and nephritis. It thus showed curious resemblances to scarlet fever. The causal agent was a streptococcus of the *conglomeratus* type. Mr. J. Arnold Jones records a case of Permanent Deafness following Mumps, and Mr. Lindley Sewell writes on Certain Dangers Associated with the Removal of Tonsils and Adenoids.

The Birmingham Medical Review. — The July number contains an abstract of the Ingleby lectures on Advances in Knowledge of Cancer by Dr. E. F. Bashford, which have already appeared in our columns (June 10th, p. 1596). Dr. D. Buchanan discusses the Public Health Problem of Tuberculosis, the article not being concluded in the present issue; and Dr. James E. H. Sawyer records the occurrence of Locomotor Ataxy in Two Sisters.

West London Medical Journal.—The Cavendish lecture by Dr. A. Neisser on the Evolution of the Modern Treatment of Syphilis takes first place in the July issue of this journal. The author recommends the combined use of mercury and salvarsan, giving the latter intravenously and the former by intramuscular injection. He also at times uses arseno-phenyl-glycin in place of arseno-benzol. Dr. Edward Reginald Morton writes on the Present Position of the X Rays and Radium in the Treatment of Malignant Disease, holding that all cells are liable to injury by these agents, but cancer cells most readily through their lack of vital resistance. Dr. Henry E. Barnes records some Acute Abdominal Cases met with in General Practice. Dr. L. C. V. Hardwicke records Two Cases of Vicarious Menstruation, and Dr. Harold S. Sington one of Sulphonal Poisoning.

THE BRITISH MEDICAL ASSOCIATION.

SEVENTY-NINTH ANNUAL MEETING IN BIRMINGHAM.

THE SECTIONS.

MEDICINE.

FRIDAY, JULY 28TH.

President, Dr. A. H. CARTER (Birmingham).

Dr. WILLIAM EWART (London) gave a demonstration of a

Method for the Clinical Use of Carbonic Acid Gas.

The apparatus consisted of a special mouthpiece with two tubes, one for the inhalation of carbonic acid gas, the other to act as an air-way or for the inhalation of any other substance. The carbonic acid gas was collected in a container from an ordinary soda-water syphon. Dr. Ewart has found that these syphons supply on an average about 2400 cubic centimetres of the gas. The container was graduated and was connected by tubing with the mouthpiece and with a contrivance for discharging the gas. Dr. Ewart gave a review of the development of our knowledge in regard to the employment of carbonic acid gas for therapeutic purposes. He had drawn attention to this matter in a paper read before the annual meeting of the Association at Portsmouth ten years ago. He pointed out that until recently physiological study had been directed to the lethal and asphyxial properties of the gas, but now physiologists had confirmed the results of clinical work upon its usefulness in smaller quantities. Experiments had demonstrated that it was safe to inhale as much as 6 per cent., but Dr. Ewart did not go beyond 4 per cent. in employing it in his wards. He described its chief therapeutic actions as follows: it stimulates expiration, acts as a cardiac stimulant, exerts an indirect effect as a sedative, and possesses the property of toning up a weak pulse. It is also useful in spasmodic conditions. Dr. Ewart also attributed the beneficial effects of the Nauheim baths to the inhalation of the carbonic acid gas given off from the water.

The PRESIDENT, Dr. J. F. HALLS DALLY (London), and Dr. T. STACEY WILSON (Birmingham) briefly discussed the communication, and Dr. EWART replied.

Dr. STACEY WILSON read a paper on

Colon Dyspepsia.

He suggested that in many cases showing symptoms of gastric indigestion the primary disturbance was a functional disorder of the colon and not of the stomach. Systematic palpation of the colon demonstrated clearly the difference between the softness and insensitiveness of the normal bowel and the hardness and tenderness of one that was abnormal. He stated that when the colon was abnormally hard it was usual to find certain definite symptoms present. These symptoms he referred to a functional disturbance of the colon, consisting in an abnormal muscular activity, which he described as "expansile tone." The basis of this was an expansion of some of the circular fibres of the muscular wall, causing hardening of the bowel with enlargement of the lumen. It was probably due to some irritant or stimulant produced in the bowel as the result of the action of micro-organisms. This expansion of the muscles of the colon was of the nature of a reflex, because the amount of the effect produced by the irritant appeared to be determined by the excitability of the nervous system, expansile tone being more readily produced when the nervous system was over-excitable than when it was more stable. The main symptoms of the condition were due to the conflict between the two opposing types of muscular activity in the bowel—namely, between contraction and expansion, resulting in tenderness of the bowel wall and in pain or other afferent impulses, which might influence the nervous system in various ways. These impulses might be felt as pain in the bowel or as pain referred to the skin area, which is in relation with the segment of the cord receiving the afferent impulses from the bowel. They might pass direct to the brain or to the vaso-motor centres controlling the brain circulation, and be felt as mental depression or some other form of brain misery, or they might pass to the vaso-motor centres controlling the heart and circulation, and then the only symptoms of colon dyspepsia might be palpitation or other

functional cardiac disturbance. The facts that these symptoms occurred at times when the colon was active, after meals, and also when the nervous system was hypersensitive, and when the colon was subject to gouty irritation—e g., in the early morning—might be of diagnostic value. Dr. Stacey Wilson discussed the relation of colon dyspepsia to mucous colitis, and stated that it may be a pre-mucous stage of mucous colitis or an allied affection accompanying it. He discussed the use of salol and benzonaphthol in treatment.

The PRESIDENT, in discussing the condition of colon-dyspepsia, expressed his opinion that Dr. Stacey Wilson did not quite carry conviction in regard to what he described as expansile tone.

Dr. H. MALET (Wolverhampton) also expressed scepticism in regard to the possibility of a muscle fibre being able to push its ends apart. He suggested that some cases of pain might be due to arrhythmia in the peristalsis of the bowel. He confirmed the effect of colon conditions upon the mental state.

Dr. EWART referred to the condition of appendix dyspepsia.

Dr. STACEY WILSON replied.

Dr. F. W. PRICE (London) read a paper on

Recent Advances in Cardiac Therapeutics.

He pointed out that the employment of graphic methods had given rise to an enormous advance in our knowledge of cardiac disorders and had rendered the whole field of cardiac therapeutics open to accurate and scientific study. His own observations were made upon digitalis and its allies in collaboration with Professor A. R. Cushny and Dr. James Mackenzie. The method adopted was that in all except urgent cases the patient was kept at rest for some days before the drug was given. The cases were observed in great detail, and the patient's subjective symptoms were carefully recorded. Weighing and measuring were done to estimate the degree of dropsy when that was present. The size of the heart was measured by percussion, the systolic blood pressure was taken by Martin's apparatus, and the graphic records were obtained by means of the ink polygraph. In some cases electro-cardiograms were also obtained. The doses of digitalis given were one drachm of the tincture daily or two drachms if the symptoms were urgent. Its administration was continued until some definite effect was obtained. Twenty-one cases of mitral disease, 11 cases of aortic and mitral, 1 case with an aortic systolic murmur, and 3 cases of cardio-sclerosis were investigated in addition to cases of paroxysmal tachycardia, tachycardia of obscure nature, heart-block, emphysema, and pulmonary tuberculosis with pyrexia. Of the 36 cases of cardiac disease 16 were cases with auricular fibrillation, and in all of these except two there was slowing of the heart and great improvement in the patient's condition after the use of digitalis. In only two of the cases of valvular disease without auricular fibrillation were there marked slowing and improvement; in most of the remaining cases there was no action at all. In the case of paroxysmal tachycardia digitalis produced auricular fibrillation and then slowing, and a similar result was obtained in the other case of tachycardia. In regard to the question of dosage, Dr. Price had found that a longer time was required to obtain effects with small doses; he therefore advised beginning with a full dose till the full effect was obtained, and then continuing with small doses. No appreciable effect was observed upon blood pressure except in one case. In no case where digitalis failed did other drugs like squills and strophanthus succeed. Squills showed little effect, and helleborin was disappointing. No diminution of the pulse-rate was observed after the use of aconite. Dr. Price concluded that the great variation in the action of digitalis and its allies observed with different patients was not due to differences in the drug, but to differences in the patients' lesions. Cases of auricular fibrillation responded well to the drug unless pyrexia was present, or unless there were marked fibrotic changes in the heart muscle. Cases without auricular fibrillation rarely showed marked improvement. The signs of auricular fibrillation were then briefly described as follows: (1) in the great majority of cases the pulse is continuously irregular and of disorderly character; (2) in mitral stenosis with auricular fibrillation the pre-systolic bruit invariably disappears, though a diastolic bruit may be present; (3) the normal auricular wave is absent in tracings taken with an ink polygraph; and (4) the electro-cardiogram shows no sign of the normal auricular systole.

The paper was discussed by the PRESIDENT, Dr. STACEY WILSON, and Dr. R. D. RUDOLF (Toronto), and Dr. PRICE replied.

Dr. OSCAR JENNINGS (Le Vesinet, Paris) read a paper on

The Treatment of Morphinism.

He differentiated between cases in which morphine only was taken and those in which cravings for other drugs occurred, and he objected to the use of the term "morphinomania," believing that it encouraged the patient to regard himself as devoid of will. He affirmed that cases of morphinism treated by chemicals or by restriction cures tended to relapse, and he advocated a system which he described as guidance without compulsion. The main features of this method were to encourage the patient to regain confidence, hope, and self-reliance, to employ suitable therapeutic, hygienic, and dietetic measures, and to insist that the patient should devote himself entirely to the object in view. Cases were described in support of Dr. Jennings's views. He claimed that by this method the auto-suggestive anticipation of difficulties was obviated and that the patient was not required to do anything heroic. He objected to the view that strong narcotic drugs were necessary in weaning patients from addiction to morphine. He counselled strict temperance in eating and drinking, even to the degree of abstemiousness or temporary fasting. He thought Turkish baths were a useful adjunct and that cycling was also beneficial.

Dr. H. CRICHTON MILLER (London) could not bring himself to believe that Dr. Jennings's method was applicable to really bad cases. He thought that an essential to cure was that freedom from pain during treatment should be guaranteed. It was necessary to obliterate the memory of the craving. He therefore availed himself of coma produced by the bromide sleep.

Dr. W. H. BRYCE (Colinsburgh) accepted the division into two groups suggested by Dr. Jennings. He had found sparteine, originally recommended by Dr. Jennings, to be very useful.

Dr. JENNINGS in his reply stated that some of his cases were patients taking large quantities of morphine daily.

Dr. HALLS DALLY read a paper on

The Clinical Determination of Blood Pressure by means of Pachon's Sphygmo-oscillometer.

The construction and manner of using the instrument were described, and the theory of oscillations upon which it is based was briefly reviewed. Dr. Halls Dally stated that it was extensively used on the Continent, but so far had not received much notice in this country. It was capable of giving accurate records of both systolic and diastolic blood pressures. He thought that the diastolic pressure had not obtained the attention it deserved, as it was probably more constant for the individual than the systolic pressure. The Pachon sphygmo-oscillometer gave higher readings for the pressures than the Riva-Rocci apparatus. Dr. Halls Dalby stated that the Pachon instrument worked throughout at constant pressures and with a maximum sensibility. It also reduced the personal equation to a minimum.

Dr. W. J. TYSON (Folkestone) read a paper on

Mania following Pneumonia.

He excluded from consideration the ordinary febrile delirium which might occur in this disease and also those cases referred to by Addison where the symptoms of mania were the chief early clinical features, and the physical signs of pneumonia were discovered in the course of routine examination. He referred to cases following upon pneumonia. He believed that the scanty literature of this subject, which he briefly summarised, was due to the fact that the cases generally occurred in private practice and were not recorded. The chief features of this condition were that it generally occurred in patients under the age of 40 years and of neurotic temperament. The pneumonia was usually of sthenic type, and was associated with sleeplessness. The disease need not necessarily be very acute, and the degree of the mania bore no relation to the amount of lung tissue involved. The mania occurred after the crisis. Dr. Tyson believed that it was toxic in origin, and was to be looked upon as part of the pneumonia. The prognosis was good, and asylum treatment need not be considered. It was most important to treat the

sleeplessness. The best hypnotic was good food, especially at night, but morphia might be given.

Several members briefly discussed the paper.

Dr. J. STRICKLAND GOODALL and Mr. W. N. KINGSBURY (London) communicated a paper on

Acute Interstitial Emphysema.

The causes of subcutaneous emphysema were briefly considered, and the rarity of this condition apart from some form of strain or injury was mentioned. The case observed by them was a child, aged 1 year, showing signs of rickets, who presented definite signs of pneumonia lasting about 16 days. Shortly before death swelling due to subcutaneous emphysema appeared above the manubrium and spread to the left side of the neck and face. There was at no time violent cough and no laryngeal obstruction. On post-mortem examination both lower lobes and the dorsal part of both upper lobes were congested. There was also acute dilatation of the crepitant part of the right lung. There was air in the connective tissue and in the mediastinum. There was great enlargement of the liver, which Dr. Goodall and Mr. Kingsbury believed to have impeded the action of the diaphragm. They also thought that their case supported the view of Dr. A. Keith that the diaphragm expands the lower lobes and the dorsal parts of the upper lobes. They had examined the post-mortem reports of 147 fatal cases of pneumonia, in 125 of which the liver was weighed, and in all of them it was much enlarged.

SURGERY.

FRIDAY, JULY 28TH.

President, Sir THOMAS F. CHAVASSE (Birmingham).

Dr. G. WILLIAM HILL (London) gave a demonstration of

The Use of the Gastroscope.

The instrument that he had devised consisted of a direct vision gastroscope passed under visual observation, so that there is the minimum risk of doing any harm. Inflation of the tube with air removes the mucous membrane from the advancing end of the tube. In conjunction also with Dr. George Herschell, Dr. Hill has had made a periscope for indirect vision to fit inside the outer tube. The method has been found to be of value in distinguishing gastric erosions or gastrostaxis from ulcer, and also simple from malignant ulcers. The instrument was shown in use on a patient, and many of the members present were able to examine parts of the stomach even as far as the pylorus.

Mr. D. P. DALBRECK WILKIE (Edinburgh) read a paper on

Some Functions and Surgical Uses of the Omentum.

He maintained and proved by experiment that the omentum is not a specialised organ for the absorption of fluids, but it possesses a very remarkable capacity for taking up any foreign bodies or solid particles left in the peritoneal cavity. This was shown by the injection of a quantity of particles of carbon into the peritoneal cavity of an animal, and when the animal was killed after an interval it was found that all the particles were in the omentum, while the rest of the abdominal organs were free from any carbon. This "scavenging" function is well seen in the late stages of recovery from peritonitis. Removal of the omentum appreciably lowers an animal's resistance to peritoneal infection. In acute peritonitis the bacteria tend to adhere to the omentum, which forms a very favourable battleground for the phagocytes in the fight between the host and the germs. When there is an infected area in the peritoneum the omentum moves towards it, and these movements depend on two factors; one factor is the action of the respiratory and peristaltic movements, and the other is peritoneal irritation and roughening. There is no evidence to justify the opinion that the omentum has any power of intelligent movement. If the blood-supply of the spleen be interfered with the omentum will wrap itself round the spleen and the spleen will survive, while if the omentum be excised at the same time as the blood-vessels of the spleen are tied it usually causes the death of the animal. Experiments give some ground for believing that in cases of strangulation of the bowel, where the vitality of a portion of it is endangered and a resection of the doubtful part is deemed inadvisable on account of the general condition of the patient, the omentum may with benefit be wrapped round the loop of gut. The use of omental grafts to reinforce intestinal suture-lines is not advisable, for the graft adheres not only to the area to which it has been applied, but also to adjacent coils of intestine; the reinforcing of suture-lines by a corner of the omentum which is not severed from its blood-supply is a valuable procedure in some cases. The omentum may be used and may be relied on to plug the perforations of hollow viscera when the lesions cannot be closed by the ordinary methods. The mucous lining of the viscus grows over the omental plug with surprising rapidity. Where there is the possibility of an abdominal wound having been infected during an operation it is well before closing it to spread the omentum behind the deep surface of the wound. If the wound suppurates the omentum will adhere firmly to its peritoneal surface, and will not only prevent the development of a peritonitis but will also very considerably lessen the risk of a complete rupture of the wound. The paper was illustrated by a number of very striking lantern slides.

Dr. W. I. DE C. WHEELER (Dublin) read a paper on

Two Cases of Abdominal Aneurysm Treated by Operation.

Every form of abdominal aneurysm is rare, and as medical treatment can hold out little hope of a cure all cases which have been treated by operation should be recorded. He referred to some of the earlier cases, and pointed out that sepsis was responsible for the fatal issue of many of them. This would not occur now, but it was advisable for the surgeon to supervise personally all the sterilisations. The use of electricity cannot be recommended, for it is of very little direct value, and the risk of sepsis is decidedly great, for there is a length of wire which is more or less septic and not easily sterilised. The introduction of wire into an aneurysm favours the deposition of fibrin, and the apparatus devised by Colt is the most convenient form and the least likely to lead to sepsis. It has been shown by post-mortem examination that the cœliac axis can be obliterated without any interference with the function of the organs which it supplies. Mr. Wheeler has employed Colt's method in two cases. It consists of a wire "cage," which is inserted in the aneurysm by means of a special cannula. The first patient was a man, 38 years old, who had had syphilis some years previously. The presence of a pulsating swelling in the abdomen had been noticed for eight months. The patient was placed on his back with a sand-bag under the loins. An incision was made through the abdominal wall over the aneurysm, which was easily separated from surrounding structures. The special trocar was inserted into the sac for about two inches, and when the cannula was withdrawn the blood welled out. A cartridge with 150 inches of wire was placed within the sac and a few stitches were inserted so as to close the trocar opening in the sac wall. For the first five days after the operation the pulsations of the sac were more tumultuous than before, but after that the pulsation became less. One month later an injection of "606" was given. The pain and discomfort all disappeared, but the tumour could still be felt. In this case it is at least open to doubt what part was played by the wire in the cure. In the second case there was a history of syphilis, and before the operation an injection of "606" was given. When the abdomen was opened the pancreas was seen to be adherent to the sac. A wisp of 105 inches of wire was inserted through the cannula. For a few days the pulsation was more marked but it soon subsided, and no murmur could be heard. In both cases open ether anæsthesia was employed. Five cases have been operated on in Dublin by the Colt method, including the two cases described now, and of these three died a short time after the operation. The high mortality was due to the late stage when the condition was recognised. The method was worthy of being employed and it offered the best chance at present.

Mr. HERBERT J. PATERSON (London) contributed a paper on

Appendicitis Without Physical Signs.

Most surgeons agreed that chronic disease of the appendix might exist without any physical signs; indeed, the appendix might be the seat of gross lesions although the patient had never had a definite attack of appendicitis. In some chronic cases the disease might mimic gastric disease very closely. Mr. Paterson had had 44 such cases; in some of these operation was undertaken for a supposed gastric or duodenal

ulcer, but it is generally possible to recognise the true condition. The prominent symptom is pain following the taking of food; it is generally referred to the left of the middle line, and sometimes the pain radiates downwards to the right iliac fossa. In most of the cases the history is long, the average duration being about five years. Vomiting of blood is common, and it comes probably from the gastric mucous membrane. In about half of the cases free hydrochloric acid is absent. The extent of the lesion of the appendix varies greatly. Duodenal ulcer is frequently associated with appendicitis, and in two-thirds of the cases in which he had operated for duodenal ulcer he had found appendicitis also, and he suggested that the duodenal ulcer was the result of toxic absorption from the appendix or from the large intestine. In operation for supposed gastric or duodenal ulcer the absence of or failure to discover either of these lesions should suggest the examination of the appendix, and in cases of recurring abdominal pain of obscure origin it should be borne in mind that the appendix may be the cause, although there may have been no definite clinical attacks of appendicitis. Even in acute cases there may be no rigidity, tenderness, or distension. In all cases of appendicitis the immediate operation is indicated.

Mr. G. P. NEWBOLT (Liverpool) read a paper on

Tuberculous Mesenteric Glands.

He presented three questions on the subject. First, Is a diagnosis always possible? Secondly, May tuberculous glands cause serious trouble? Thirdly, What should be done with tuberculous glands which are discovered when the surgeon is operating for some other condition? The diagnosis is by no means always possible, for the swelling caused by the enlarged glands, even if it can be felt, can easily be mistaken for some other condition. There can be no doubt that serious trouble may follow from the presence of enlarged tuberculous glands in the mesentery. They may suppurate and burst, or they may do harm in other ways. He related a case in which a volvulus had occurred as the result of the presence of suppurating tuberculous glands. The patient died 36 hours after the commencement of symptoms as the result of the shock. During the operation for appendicitis it is not at all rare to find one or more calcareous lymphatic glands in the mesentery, and the question is what should be done with them. It may be a very simple thing to remove such glands or it may be difficult. Sometimes a fistula remains as the result of removing a gland, and sometimes during the removal it is found that it is adherent to the mesenteric vessels.

Mr. JAMES BERRY (London) read a paper on

A Further Series of Cases of Cleft Palate Treated by Operation.

In 1905 he gave at the Leicester meeting of the Association a detailed account of all the cleft palates on which he had operated up to that date, and now he presented to the meeting a series of tables of all the cases on which he had operated since that time. He had never refused to operate on a case except on the ground of ill-health. In rather more than half the cases the child was over the age of three years at the time of operation. The best period for the operation was between the ages of one and three years, and even a few slight cases in which the cleft has been confined to the soft palate have been operated on during the first year of life. The operation that he always performs is that which was introduced by Langenbeck, but it has also been associated with the names of Fergusson and Smith. It is important to remember that this operation does not merely consist in suturing the edges of the cleft, but a muco-periosteal flap is raised from the bones so as to allow the edges to come together. The mortality of his cases is noteworthy, for there has been no death in either series. With this may be contrasted the mortality of the flap operation. The operative mortality of the turnover flap operation is given at 12·5 per cent., and from this the advocates of that operation deduct 10·9 per cent., which they claim is the death-rate of children of that age, and as a result they obtain a mortality of 1·6 per cent. Such a method of calculating the mortality is, of course, absurd, and the fact remains that the operation death-rate of the flap operation is over 12 per cent., but how much more the real death-rate is cannot be ascertained. Mr. Berry then presented five cases which had been operated on by him, and in one case 15 years had elapsed since the operation. The patients all read or recited and the excellent articulation was obvious.

Mr. J. T. J. MORRISON (Birmingham) proposed a vote of thanks to Mr. Berry for his paper and for the convincing demonstration.

Mr. C. W. CATHCART (Edinburgh), in seconding the vote of thanks, said that while reading the reports of the recent debate in London he had felt in doubt as to which was the better method, but Mr. Berry's paper and demonstration had been convincing.

Mr. H. GILBERT BARLING (Birmingham) said that the flap method was not new; it had been used by Lawson Tait many years ago. It should be of great interest to keep a record of a hundred children with hare-lip from birth and follow them up so that we might know what mortality there was in such cases quite apart from operation. In his own operations he had often found that he had had some little trouble in closing a small hole left at the junction of the hard and soft palates.

Mr. FRANCIS W. GOYDER (Bradford) said that hitherto he had always employed the flap operation, but as a result of the paper he would have to change. He considered that the height of the palate had much to do with the defects of articulation in children with cleft palate.

Mr. W. MORLEY WILLIS (Nottingham) said that it could not be denied that the flap operation had a very high mortality, and this mortality was still more striking when it was compared with the absence of mortality in the other operation.

Mrs. F. M. DICKINSON BERRY (London) said that from her experience with feeble-minded children she did not think that a high arched palate had anything to do with a nasal voice.

Mr. BERRY, in reply, said that he considered that mobility of the soft palate was the most important factor for clearness of voice.

Mr. W. J. GREER (Newport, Monmouth) contributed a paper on

Fibromatous Tumours of the Mesentery.

He commenced by saying that these tumours were very rare; the first case was reported in 1824. Nothing is known of their etiology, the structure is fibrous, but in some cases it is possible that some malignant elements are present. The case which he had to report occurred in a man, 54 years old, who for nine weeks had noticed that there was a swelling in the abdomen near the umbilicus; it was smooth on palpation and dull on percussion. The tumour at the operation was readily enucleated and the patient recovered. On examination the tumour was found to consist of fibrous tissue. The operation death-rate of these tumours is very high—namely, 22 per cent. The largest tumour successfully removed weighed 40 lb. These tumours grow rapidly and they are not adherent to the abdominal wall, and that fact is of some assistance in the diagnosis. The operation may be very simple, but in some cases there is no small risk of injury to the blood-vessels of the mesentery.

Dr. ALEXANDER MACLENNAN (Glasgow) read a paper on

Fracture of the Scaphoid Bone.

He said that this fracture was not at all rare, for it was comparatively common, but it was usually not diagnosed, and it was generally called "sprained wrist." The mode of production was simple; it was produced by a fall on the flexed wrist, though it might also be produced by a fall on an over-extended wrist. A transverse fracture is the usual type. The diagnosis is generally made by means of X rays, for there is no essential deformity, though sometimes a swelling may be felt over the dorsum of the wrist. Crepitus is rarely present. The treatment should be massage, and as a rule operative treatment should be reserved for cases with obvious deformity. At the operation it may be found necessary to remove one or both fragments, and sometimes to wire the fragments. Rest for three months may be required. Skiagrams were shown exhibiting the broken bone.

Mr. JOHN PATRICK (Glasgow) pointed out that it was not very rare for the scaphoid bone to be formed from two centres, and there was a risk of mistaking a divided scaphoid for a broken bone. Therefore it was always advisable to examine both hands before making a diagnosis of fracture.

ANATOMY AND PHYSIOLOGY.

FRIDAY, JULY 28TH.

President, Professor THOMAS H. BRYCE (Glasgow).

Professor E. M. WACE CARLIER (Birmingham) delivered a paper on

The Physiology of Some of the Allyl Compounds.

The investigation of which this paper was the outcome was directed to determine if the world-wide reputation of the onion and the leek as therapeutic agents was justified. The experiments were conducted with different allyl compounds, and their effects were noted on frogs. Briefly, Professor Carlier's findings were that all the allyl compounds depress the respiratory centre and kill the animal by finally abolishing its activity. All the compounds investigated produced a fall of blood pressure. The isothiocyanate, C_3H_5CNS, proved the most toxic, and its toxic action was in all probability due to the isothiocyanate moiety, since phenyl isothiocyanate is also toxic. With the sulphide $(C_3H_5)_2S$ it is probably the allyl moiety which produces the effect, as ethyl sulphide is comparatively innocuous. The popular belief in the medicinal value of the active principle of the onion received no confirmation from any of the experiments.

Professor W. H. THOMPSON (Dublin) and Dr. D. FRASER HARRIS (Birmingham) took part in the discussion which followed the reading of the paper.

Kidney with Double Ureters.

Mr. J. E. S. FRAZER (London) gave a demonstration of Specimens of Kidney with Double Ureters. Two examples were exhibited, and the various degrees of the malformation commonly met with were discussed. Only a single opening into the bladder was present in both the cases demonstrated, but Mr. Frazer pointed out that the method of development of the metanephric bud would account for complete separation, and even for cases in which two kidneys existed on one side of the body.

Some further remarks on these anomalies were contributed by the PRESIDENT.

Demonstration of Dissections of the Orbit.

Dr. S. E. WHITNALL (Oxford) exhibited and demonstrated a very beautiful series of Dissections of the Orbit. These specimens illustrated many important and novel points in the anatomy of the globe of the eye and the lacrymal apparatus. A series of normal lacrymal glands was demonstrated, and Dr. Whitnall pointed out that in no case had he met with a complete separation of the two parts of the gland. Some dissections were made of the lacrymal sac and the tendo oculi internus; these preparations had a useful practical bearing on the surgery of the lacrymal sac, and Dr. Whitnall demonstrated that the main insertion of the tendo oculi passed behind the sac, the anterior attachment being comparatively unimportant. Other specimens shown were: (*a*) Dehiscence of the median orbital wall; (*b*) the external palpebral ligament and its real attachment to the tubercle on the malar bone; (*c*) the relation of the anterior ethmoidal cells to the orbital wall and lacrymal sac; (*d*) the capsule of Tenon displayed from the front. One specimen of more than usual interest showed absence of the ophthalmic artery and its replacement by an anastomosis with the middle meningeal artery. Dr. Whitnall also demonstrated dissections of the cavernous sinus made by removing the dura mater and displaying the sinus from its inner aspect; preparations of the remains of the retractor bulbi muscle in man; specimens showing the relations of the levator palpebræ superioris, and a cast of the orbit.

Dr. Whitnall was congratulated on the beauty of his preparations, and upon the many practical points in ophthalmic surgery which they demonstrated.

Mr. A. C. T. WOODWARD (Birmingham) read a paper entitled

Observations on the Foramina of Fibulæ in Man and Apes.

He discussed the typical condition and the departures from the normal which he had found in the examination of a large series of bones. By the aid of a model he demonstrated the production of the permanent direction of the foramen in typical cases.

The PRESIDENT joined in the discussion which followed, and expressed the hope that the model would help to make clear a point which was always rather a difficult one to explain to students.

The remaining papers on the programme being entirely devoted to physiological subjects, Professor BRYCE resigned the chair in favour of Professor CARLIER, who acted as President until the termination of the meeting.

Colour-Blind Margin of the Blind Spot.

Professor J. B. HAYCRAFT (Cardiff) gave a demonstration to show the nature of the Colour-blind Margin of the Blind Spot, explaining the mechanism of the instrument he had devised for charting the limitations of this area. He pointed out that in carrying out the tests it was necessary to secure an equal luminosity for all the colours employed, and he showed the method he had used for ensuring this. All colours so arranged passed first to white or grey before they became invisible at the blind spot, and this colourless margin could be readily mapped out for different eyes. Several charts were shown and commented on.

In the discussion which followed this paper Dr. F. W. EDRIDGE-GREEN (London) referred to the great utility of the method of securing uniform luminosity of the colours to be tested.

Demonstration of Rescue Apparatus Employed in Mines.

Dr. FRASER HARRIS (Birmingham) gave an interesting demostration of Various Forms of Rescue Apparatus Employed in Mines, and discussed the results of a series of experiments carried out on a band of volunteers at the experimental mine attached to the University of Birmingham. These experiments were carried out under very severe conditions, and the hardihood of the volunteers who submitted themselves to the investigations was very much to be admired. The mine was flooded with smoke, its temperature was raised, its humidity was increased, and in every way the surroundings were made as realistic as was possible. In this atmosphere hard physical work was done, bags of sand, representing men, were dragged about, and all the stages of an actual mine rescue were rehearsed under peculiarly severe conditions. Dr. Fraser Harris drew attention to several practical defects in the types of apparatus employed, and pointed out that the comfort of the miner and his prejudices had to be considered in any scheme for actual work in times of emergency. All these details cannot but be of the greatest utility to the practical man, for when the apparatus is required it is in times of vital urgency, and no hitch that can be eliminated by careful experimental methods under realistic conditions must be overlooked. Dr. Fraser Harris pointed out the importance of a condition of syncope, which came on in some cases without any warning, so that the man simply fell out and was liable to be left behind in the darkened mine; and he suggested that men should be carefully selected for work in times of actual emergency.

Professor THOMPSON and Professor CARLIER joined in the discussion, and Dr. Fraser Harris was congratulated on the utility of the work which he had brought before the meeting.

Professor W. H. THOMPSON (Dublin) gave a paper on

The Nutritive Effects of Beef Extract.

The experiments, which were carried out in association with Dr. W. Caldwell and Dr. J. A. Wallace, were a continuation of those brought before the Association at its last annual meeting, and extended their scope to the study of the effects of beef extract on man. Two subjects were given a known diet to which a home-made beef-extract was added; at the termination of the experiment it was found that both subjects had gained in weight (in the one case an increase of 280 grammes, and in the other 503 grammes). Commercial beef-extract gave a lower proportion of increase (216 and 108 grammes respectively).

In the discussion which followed Dr. E. P. CATHCART (Glasgow) questioned the actual method in which this increase of weight was brought about, and suggested that a stimulating effect of the extract might account for the result found.

Professor RICHARD ANDERSON (Galway) also joined in the discussion.

Dr. EDRIDGE-GREEN (London) read a paper on

Tetra chromatic Vision.

He pointed out that persons with tetra-chromatic vision constituted a border-line class in the subjects of defects of colour vision. Special provisions should therefore be made in carrying out any test for their fitness to pass examination for colour-blindness. Many of the tests at present employed

did not act uniformly on the tetra-chromatic, for there was no certainty of their acceptance or rejection under the conditions of the examination. He pointed out their special difficulty in dealing with blues, and demonstrated how tests could be arranged which determined their exact visual defect and eliminated the large element of chance which was present in the common forms of colour-blindness tests.

Professor HAYCRAFT and Professor ANDERSON discussed the paper, and Dr. EDRIDGE-GREEN replied.

DERMATOLOGY.

FRIDAY, JULY 28TH.

President, Dr. JAMES GALLOWAY (London).

Among the cases of dermatological interest shown before the meeting were the following:—

Dr. A. DOUGLAS HEATH (Birmingham): Chronic Lichen Planus in a man 25 years of age; Sycosiform Lupus in a man of 62 years, who had had it for 20 years; Molluscum Contagiosum of the Forehead in a girl, 19 years old, of six months' duration; Bazin's Disease on the legs of a girl (von Pirquet's test had been positive); and Ichthyosis Verrucosa in a boy 9 years old.

Mr. E. GILBERT SMITH (Birmingham): Lupus Vulgaris in a man of 23, who had had it for three and a half years (he had had 1/10000th of a minim of tuberculin weekly since Christmas, and he had much improved); Lupus Erythematosus in a woman, 73 years old, who had had it for 20 years; another case of the same disease in a woman of 28 of two years' duration, growing worse; and a case also in a woman of 44 years who had been benefited by X rays.

Dr. G. H. LANCASHIRE (Manchester) read a paper on

An Unusual Case of Cutaneous Pigmentation.

The patient was a woman, aged 31 years, who had had since childhood a pigmented area on the neck. She was a brunette. About last Christmas pigmented freckles appeared round this area, and in the course of the next four months spread down the neck to the left shoulder and upper part of the left arm in the deltoid region, and also on to the front of the chest wall to just beyond the middle line. Lancinating pains came on frequently during both the day and the night, and each paroxysm of pain appeared to be succeeded by the deposit of freckles in a fresh area. The patient appeared to be in good health, with no signs of organic disease. A medicine containing bromide was prescribed, and locally menthol oil was applied. The pains soon subsided, and fresh pigment ceased to be deposited. Fairly rapid absorption of the pigment which had previously been deposited soon set in. Dr. Lancashire pointed out the resemblance in the general features of this case to herpes zoster.

Dr. H. G. ADAMSON (London) suggested that the condition was in part congenital.

Dr. J. H. SEQUEIRA (London) suggested that the pigmentation might have been due to some hot applications to the part.

Dr. ADAMSON read a paper on

A Case of Sporotrichosis.

He mentioned that the disease was very little known in this country, though it was not unlikely that it was more common than might be thought, for it was by no means improbable that many cases were undiagnosed, as it gives rise to ulcerations which have a very great resemblance to those resulting from gummata. He gave a *résumé* of the literature of the subject, and he pointed out that the lesions were not confined to the skin, but in some cases might also be found affecting the mucous membrane of the throat; it might affect the eye and deposits might occur in the testis. The organism is easily grown and can then be recognised readily, but it is rarely possible to find the organism in smears. The disease occurs in the rat and in the dog, and it is much more common in North America than in this country. For a long time the disease has been known there, and it was called pseudo-glanders, and it was recognised that it could be caught from horses. Cultures grow readily on glucose-agar or on potato. The swelling is made up mainly of mycelium, singly or in bundles, and giant cells are present. The size of the nodules is generally about that of a marble or a little larger. The nodules break down and form ulcers. The diagnosis must not be allowed to depend on examination of the pus from an ulcer, for the organism may not be discoverable, but a culture should always be made. In the treatment large doses of iodide of potassium exert a very beneficial effect.

Dr. R. CRANSTON LOW (Edinburgh) showed a wax model of a case of Sporotrichosis, and also a culture which had been made from the pus from the same case. He also exhibited several lantern slides showing the appearance of sections of the nodules. In appearance a culture of sporotrichosis is midway between ringworm and actinomycosis. The patient inoculated his finger a year ago, and in a week the condition had commenced to spread upwards, the lower lesions having a tubercular appearance, while the upper lesions had a syphilitic appearance. The diagnosis is really made from the culture, but it is important to take the culture before any iodide of potassium has been administered, for a single dose of the iodide may be sufficient to destroy the fungus.

Dr. R. STOPFORD TAYLOR (Liverpool) read a paper on

Some Practical Observations on the Treatment of Eczema.

He considered that eczema was due to the action of a local irritant, but that it was frequently associated with disease of one or other internal organ, and it was kept up by the original or another irritant. He described the form of dressing which he employed. He takes a piece of wetted lint, and then puts the ointment or paste on the smooth side of the lint and covers it with a piece of butter-cloth, which is placed next the skin, and sometimes a piece of gutta-percha tissue is placed outside all. In acute cases this dressing may need changing twice daily, but in chronic cases less frequent dressing will be quite sufficient. He laid stress on the importance of not allowing any interval to elapse between one dressing and another. The wet lint and the butter-cloth are employed because they allow drainage.

Dr. LOW expressed the opinion that many eczemas are seborrhœic in origin, and therefore he had a high opinion of the value of sulphur in the treatment of these forms of the disease.

Dr. ADAMSON did not consider that eczema was microbic in origin. In treatment the main point was to protect the part from external irritants.

The PRESIDENT showed some lantern slides illustrating some interesting cases. The first case was that of a woman who had suffered from syphilis in early life. She developed gangrene of the finger-tips of both hands; the gangrene followed a syphilitic affection of the blood-vessels. A section of the posterior tibial artery from a similar case was exhibited showing the thickened wall. The vein in a similar condition was also shown; it is often not recognised that the veins are affected equally with the arteries. The President also showed a slide of a case of Dermatitis Repens in which he had found that there was very definite disease of the wall of the blood-vessels.

Dr. J. GOODWIN TOMKINSON (Glasgow) read a paper on

Pruritus Vulvæ.

He referred especially to a case of a pregnant woman who suffered very severely from pruritus of the vulva. He maintained that the disease is not merely a neurosis, and that this is shown by the pigmentation of the skin which is present. In the case mentioned the itching was so intense as to interfere with sleep, and it was affecting her mind. The ordinary sedatives had no effect in relieving the itching. At last he applied X rays, with the result that the itching was completely cured.

DISEASES OF CHILDREN.

FRIDAY, JULY 28TH.

President, Dr. OTTO J. KAUFFMANN (Birmingham).

The proceedings in this section opened with a most interesting demonstration on

The Treatment of Scoliosis

by Mr. PAUL B. ROTH (London), who stated that there were six different kinds of curves occurring in scoliosis which might be represented graphically by certain signs. He exhibited several cases of different varieties of scoliosis and demonstrated on a patient the particular exercises employed. There were ten different exercises, the actual carrying out of which took about 20 minutes. In a paper read later Mr. Roth gave further details of a series of 1000 consecutive cases of scoliosis, from a study of which he had formed the

following conclusions: 1. Scoliosis was almost essentially a disease of females, 84 per cent. of the cases having occurred in that sex. 2. It was a disease of adolescence; 86 per cent. of cases were between 6 and 20 years old. 3. The frequent occurrence of scoliosis in members of the same family pointed to hereditary transmission. 4. The bad position assumed in writing, a delicate constitution, and too rapid growth were largely responsible for very many cases. 5. Difference in the length of the leg was not a common cause of scoliosis, having been present in only 21 of the 1000 cases. 6. Pain was a frequent symptom. 7. Flat-foot was a very frequent complication. 8. Attention to dress before any treatment was commenced was absolutely essential. 9. Treatment should never be commenced until a record of the osseous deformity had been made. 10. Treatment by posture and exercise entirely arrested the increase of bony deformity in all but 5·5 per cent. of observed cases, and in 3·3 per cent. slightly decreased it. Cure of the bony deformity could not be expected, but in 83 per cent. of cases a permanent practical cure was brought about. He did not use mechanical supports of any kind.

In the discussion which followed Mr. G. HEATON (Birmingham) asked how far bicycles could be regarded as a cause of scoliosis in young women, and whether instruments should ever be employed.

Dr. R. B. MCVITTIE (Dublin) emphasised the importance of medical supervision of school children.

Mr. ROTH replied that he regarded bicycling as useful in scoliosis, and that he had never met with a case in which instrumental supports were necessary.

Dr. F. E. BATTEN (London) read a paper on

The Epidemiology of Acute Poliomyelitis,

in which he brought forward four propositions: 1. That poliomyelitis was an infective disease, transmissible from man to monkey and from monkey to man. The virus had not yet been stained nor seen under the highest power of the microscope. It was obtained from the mucous membrane of the nose of a monkey which had suffered from the disease, and was obtained in an active condition six months after the date of infection. The virus was strikingly similar to that of rabies. 2. That poliomyelitis was an epidemic disease was proved by the numerous epidemics recorded during the last 30 years in Sweden, Norway, Germany, Austria, France, America, and Australia. In the northern hemisphere epidemics always had the greatest prevalence during July, August, and September, and children during the second and third year of life were most commonly affected. Infection through schools had occurred, but by no means frequently. 3. That the disease occurred in an epidemic form in England was shown by the report of an epidemic of 8 cases at Upminster in 1908 (F. Treves) and an epidemic of 37 cases at Bristol in 1909 (Parker). During 1910 epidemics were reported at Carlisle, where the disease had been made notifiable, and at other places. 4. Poliomyelitis being an infective disease should be treated as such, and the infected person as well as the contacts should be isolated. The period of incubation was probably less than six days; the period of isolation of the infected should not be less than three weeks. The disease was not so infective as scarlet fever or diphtheria, and the isolation of contacts should have a marked effect in diminishing its incidence. There was some experimental evidence to show that the administration of urotropin tended to prevent infection and diminish the virulence, if not to destroy the virus.

Dr. R. D. RUDOLF (Toronto) commented on the tendency of the disease to vanish with the appearance of cold weather, arguing the probability of an animal agency in carrying the disease.

Dr. L. G. PARSONS (Birmingham) described an epidemic of 32 cases observed in London in 1909, and stated that the cold weather of that summer had proved no bar to the spread of the disease.

Dr. R. H. MILLER (London) asked how far epidemics should be regarded as water-borne.

Dr. BATTEN replied to the various speakers.

Professor STOELTZNER (Halle) read a short paper on

Oxypathy and Uric Acid,

in which he stated that oxypathy was as common in children as gout was rare.

Mr. H. TYRRELL GRAY (London) read a paper on

Indications for the Employment of Spinal Anæsthesia in Abdominal Surgery.

He considered that the value of spinal anæsthesia lay largely in the fact that its employment was an adaptation of the principle of "nerve blocking" over a large area. Experience had shown that with proper selection and in competent hands spinal anæsthesia was as safe as general anæsthesia. The question at issue was, not the relative merits of the two methods as anæsthetics, but rather a consideration of which principle—that of nerve blocking or of the suspension of the activity of the higher centres—was the best suited to any particular case. A few general principles were considered. (*a*) Age. In early life spinal anæsthesia was of the greatest assistance to the surgeon. It might be accepted that the younger the child the more suitable was the case for spinal anæsthesia. (*b*) The physique of the child was an important factor in deciding between the methods. (*c*) State of health of the patient. The following conditions peculiar to the abdomen were dwelt on. With spinal anæsthesia muscular relaxation was so complete that thorough access to the different regions of the abdomen was possible with a far smaller incision than under general anæsthesia. The intestines were found comparatively collapsed, and did not exhibit the same tendency to protrude from the wound as under general anæsthesia. Manipulation was consequently minimised, the rapidity of operation increased, and there was less tendency to resulting distension. This latter was a most important point. It was in acute abdominal lesions that spinal anæsthesia was most often indicated in young children. These lesions were roughly classified into three groups: 1. Infective lesions of the peritoneum. Here the chief indications for spinal anæsthesia were the degree of toxæmia, the age and physique of the patient, the degree of intestinal distension, and the degree of urgency for maximum speed with the minimum exposure and violence. 2. Intestinal obstruction. In most such cases, especially in intussusception, operation in children below two years of age should be done under spinal anæsthesia. 3. Injuries. If collapse from hæmorrhage was profound, spinal anæsthesia was usually contra-indicated. This did not apply to collapse from shock. The frequent necessity for extensive exploration in these cases would often render spinal anæsthesia advisable. In perforating injuries, the main indications for its use were based on the situation of the wound, the nature of the instrument, and the condition of the intestine.

Mr. S. G. BARLING (Birmingham) dwelt on certain of the risks and uncertainties of the method, which had been tried in Birmingham but given up.

Dr. R. MILNE (London) read a paper on

Measles: its Treatment and Prevention.[1]

His method consisted in destroying the germs of the disease by sterilising the pharynx, mouth, and nose with carbolic oil, and inunction of the whole body with eucalyptus oil. The method was equally applicable to scarlet fever. Dr. Milne described the success of his treatment at Dr. Barnardo's Homes.

Dr. J. BRUCE-BAYS (Peterborough) questioned the utility of preventing school children catching measles.

Dr. W. P. KENNEDY (Bath) and Dr. A. CANT (Coleshill) having spoken, Dr. MILNE, in reply, said that in over 800 cases of measles and scarlet fever treated he had had no complications and no deaths.

The business of the section concluded with a paper by Mr. F. W. GOYDER (Bradford) on

Modifications and Extensions of Owen's Operation for Hare-lip.

in which he described the various steps of this operation, which had been devised in order to supersede the vertical scar operation, which he considered to have many disadvantages. The ideal to be aimed at, in his opinion, was to have symmetrical nostrils, the lip must be even, thick, and longer at its free border than at its attachment, the scar should be inconspicuous, and the line of suture broken and not straight. The modifications he recommended were believed to result in these improvements, and were performed without any loss of tissue whatever.

[1] See THE LANCET, April 22nd, 1911, p. 1070.

ELECTROTHERAPEUTICS AND RADIOLOGY.

FRIDAY, JULY 28TH.

President, Dr. HUGH WALSHAM (London).

The proceedings were commenced by Mr. J. HALL-EDWARDS (Birmingham) who read a paper to open a discussion on

The X Ray Treatment of Ringworm.

He said that whilst ringworm of the scalp is amenable to ordinary treatment there is perhaps no disease in which so many and varying methods have been adopted with so small an amount of success, and up to the present we have no routine method at our command. During the last few years the disease has been brought into special prominence from the fact that its existence entails a monetary loss to the various school boards, inasmuch as the Government grant depends upon the regular attendance of the pupils. In some of our large cities special ringworm schools have been opened, and in a few a determined campaign against the disease has been started. Whilst the disease is far less common in this country than it is upon the continent, it is more common than is usually believed to be the case. Where a careful examination of the heads of the children is made the disease is found to exist in many unsuspected instances. It is generally agreed that epilation, in which both the diseased hairs and the spores are got rid of at the same time, is the best way of treating the disease. To bring about epilation by the older methods is both difficult and dangerous. In the X rays, however, we have at our command a method which is safe and certain. When efficiently and carefully carried out a cure can be secured in from six to eight weeks, as against 27 months, which was the average as calculated by Sabouraud. The objections which have from time to time been raised against X ray treatment are: that it necessitates special and expensive apparatus; that its proper performance requires special knowledge; that the application of the rays to the head is dangerous; and that the hair may not grow again. Although the initial outlay for the apparatus is great, it is more than compensated for by the immense saving in time which results in its use. Secondly, if treatment is to be successful special knowledge is always necessary. As to the method being dangerous, no case of permanent injury has been reported out of the hundred of thousands that have been treated. During the last two or three years our methods of measuring the dosage have been vastly improved and the special "treatment tubes" rendered more efficient. In choosing apparatus for radiotherapy it is of paramount importance that the group should be so arranged that the output of radiations shall be constant both in intensity and quality.

Dr. REGINALD MORTON (London) thought that while a few cases of partial baldness had undoubtedly happened in the more or less remote past of X ray chronology, such accidents were now of such rarity as to be negligible, and he thought that the time had come for those dermatologists who did not approve of the X ray treatment of ringworm to cease dangling these ancient errors before our eyes. So far there was no evidence to show that the method had any influence upon the development of the juvenile brain. He fully concurred in Mr. Hall-Edwards's statement that the X ray method was the best, safest, and easiest means of epilation known at present.

Dr. J. A. CODD (Wolverhampton) also agreed that the X ray method was the best and safest under existing conditions. The hair should be cut short beforehand. He doubted whether the use of antiseptics did much good.

Dr. J. DELPRATT HARRIS (Exeter) had found heads with dark curly hair the most difficult to epilate successfully, and of the different varieties of tinea the pustular form was the most difficult to cure.

Dr. G. HARRISON ORTON (London) advised care and the use of antiseptic ointment while waiting for the hairs to fall out; also to be very careful to avoid exposure to direct sunlight, which with the X ray produced severe reaction at times.

Mr. HALL-EDWARDS, in the course of his reply, spoke strongly against the practice of shaving the head. The hairs should be left long enough to be pulled out.

Dr. FRANZ NAGELSCHMIDT (Berlin) read a paper on

The Diathermic Treatment of Circulatory Disorders.

This electrical application is one by means of which several ampères of current can be made to traverse the whole body. So far as the circulatory system is concerned, its chief effect is to cause a dilatation of the capillaries and small arterioles, which is followed by a fall in blood pressure amounting to several millimetres of mercury. He quoted a number of cases in which high tension was rapidly relieved, and it was found after a series of applications that the reduction of blood pressure acquired a degree of permanence. Good results had also been obtained in angina pectoris, presumably due to the dilatation of the coronary arteries, and with a course of treatment the paroxysms became less severe and frequent.

Mr. HALL-EDWARDS thought the term "high frequency" ought to be abolished in this connexion in favour of the term "diathermy," which described it more accurately.

Dr. W. B. KNOBEL (Belbroughton) read a paper on

The Differences in the Appearance of Phthisical Chests as shown by the X Rays Before and After Open-air Treatment.

Dr. Knobel is fortunate in having his cases under observation for long periods of time and at all stages of the disease. He considered the relative dulness of an apex, for instance, and its failure to "light up" properly on inspiration to be the earliest sign of phthisis, and in many cases this could be made out before any definite physical signs were obtainable. He also brought out an important fact that in cured or arrested cases the X ray appearances were not necessarily improved, this being due to the presence of the fibrous tissue effecting the repair. At the same time there were differences that could be detected by skilled examination. The paper was illustrated with a series of lantern slides.

The PRESIDENT agreed that the dull apex which refused to brighten up properly on inspiration was the earliest and most certain sign of the advent of phthisis. This sign could be made out before any clinical signs could be elicited.

Mr. HALL-EDWARDS spoke of the value of instantaneous radiography in getting a record of the earliest infiltration, especially of the bronchial glands.

Dr. HARRISON ORTON pointed out the necessity for being in a darkened room for at least ten minutes before looking at a chest, and this was particularly necessary for those who were not engaged in this class of work.

Dr. F. HERNAMAN-JOHNSON (Bishop Auckland) read a paper on

The Treatment of Certain Diseases of the Alimentary Tract by X Rays, Combined with the Internal Administration of Metallic Silver.

He said that rays sufficiently penetrating to reach the interior of the alimentary tract are of small value therapeutically; their very quality of "hardness" allows them to pass through the tissues with a minimum of disturbance. The discovery of "secondary X radiation," announced by Sir J. J. Thompson at the British Medical Association annual meeting in London last year, has, however, made it possible to convert hard rays into soft, physiologically active radiations. Silver, for example, when excited by a hard bulb gives off rays which, judged by the amount of body tissue required to absorb them, closely resemble the *beta* rays of radium. These secondary rays are, so to speak, *specific* to a given metal; thus, the same metal always gives off the same quality of ray, no matter what the nature of the primary beam. Precipitated silver—a slate-coloured, tasteless powder—can be taken orally without danger. Suppose it is desired to treat a lesion of, say, the ascending colon. By means of a "bismuth meal" and the fluorescent screen we can ascertain how long food takes to reach the part. For the bismuth meal is now substituted a "silver meal" (℥ii argent. precip. in a pint of bread and milk). By properly timing an X ray exposure we can produce a radium-like radiation in the interior of the gut at the site of the disease. An application of 10 minutes three times a week, tube 10 inches from skin, penetration 8–9 Wehnelt current in secondary 0·4 milli-ampère, appears to be well tolerated; but no hard-and-fast rule can be laid down. Exposures should be made from varying angles. Good results have accrued in ulceration of the cæcum, duodenal and gastric ulcer, and tumour of the pylorus, possibly malignant. That a definite secondary radiation is produced under the above conditions can be demonstrated by photographic experiments. As regards its therapeutic activity, we cannot actually see into the bowel, but if an emulsion of precipitated silver in olive oil be injected beneath a cancerous nodule in the skin, involution

takes place much more rapidly than under ordinary X ray treatment.

Mr. MAURICE R. J. HAYES (Dublin) had employed a similar method in a case of cancer of the rectum. He placed the ointment of oxide of zinc *in situ* and then irradiated the part. The case was improving, but still under treatment. He had also employed the same method in the treatment of an obstinate rodent ulcer.

Mr. HALL-EDWARDS referred to experiments with secondary radiation from metal discs which had been published previously.

LARYNGOLOGY, OTOLOGY, AND RHINOLOGY.

FRIDAY, JULY 28TH.

President, Mr. FRANK MARSH (Birmingham).

Professor ONODI (Budapest) and Dr. ADOLPH BRONNER (Bradford) opened a discussion on

The Diagnosis and Treatment of Conditions of the Accessory Nasal Sinuses Giving Rise to Oculo-Orbital Symptoms.

Professor ONODI first described the oculo-orbital symptoms in manifest and latent accessory sinus disease. Next he dwelt upon the diagnostic value of central scotoma, enlargement of the blind spot, narrowing of the field of vision, the ophthalmoscopic appearances, and the unilateral symptoms of oculo-orbital involvement. He gave the indications for treatment in manifest accessory sinus diseases. Further treatment in latent accessory sinus disease by bleeding and relief of pressure was mentioned. He concluded with a reference to post-operative visual disturbances and blindness. Professor Onodi exhibited a series of photographs of specimens illustrating the anatomy and pathology of the subject under discussion. The collection of photographs exhibited, it was announced, had been presented by Professor Onodi to the University of Birmingham.

Dr. BRONNER said that the commonest affections of the accessory nasal sinuses giving rise to oculo-orbital symptoms were: (1) empyema, following rhinitis, often due to scarlet fever, measles, influenza, erysipelas, and typhoid fever; (2) diseases of the bone, secondary to empyema, due to syphilis or tuberculosis; (3) growths; and (4) wounds. There were often congenital defects of the bone which facilitated the spread of disease from one sinus to another, or to the brain and orbit. Transillumination and X rays were useful for diagnosis, especially the latter in cases of frontal sinus disease. X ray treatment should be tried in some cases. In cases due to syphilis energetic treatment was necessary. In tuberculous cases tuberculin might be injected. Vaccine, and, if possible, an autogenous vaccine, or serum treatment should be tried in all severe cases. In many cases several of the accessory nasal sinuses were involved, and the treatment of one sinus alone was useless. In empyema of the maxillary antrum the most trustworthy method of diagnosis was to wash out the antrum through the nares. As all, even the most trivial, nasal operations could give rise to severe local and general affections, the patient should always remain in bed and be watched for a few days. If there is a growth of the maxillary antrum, or much diseased bone, as in a case of tuberculosis, the upper jaw should be removed. These operations are most successful. In empyema of the frontal sinus the pain over the region affected may be due also to disease of the maxillary antrum. When the frontal sinus is affected, the pain is more severe and intermittent. The upper or inner wall of the orbit is often painful on pressure. If the orbit is affected an extensive operation should be performed, as in most cases the anterior ethmoidal cells are also diseased. If there is optic neuritis, or cerebral symptoms, the posterior wall of the frontal sinus should be opened up and the brain exposed. If the symptoms are not urgent it is always advisable to try intranasal treatment first. There is always a danger of disease of the diploë after the external operation on the frontal sinus. In empyema of the ethmoidal cells there is often pain on pressure on the inner wall of the orbit with crackling noise. Periostitis of the orbit is often mistaken for disease of the lacrymal sac. Operation should be performed intranasally and, if necessary, extranasally. A large incision should be made extending below the lacrymal sac. In empyema of the sphenoidal sinus often there are no symptoms. In all cases of obscure retrobulbar neuritis with slight unilateral optic neuritis and meningitis the sphenoidal sinuses should be carefully examined and explored. The posterior ethmoidal cells are also frequently involved. This is very important because of the position of the optic nerve. Central scotoma may be due to congestion of the veins of the optic nerve or to toxins. Meningitis and cavernous sinusitis are more frequent than disease of the orbit.

Dr. P. WATSON-WILLIAMS (Bristol) demonstrated a suction syringe for the diagnosis of sinusitis of the maxillary antrum. He stated that the operation which he had devised for treatment of suppuration of the frontal sinus and the adjacent cells was not more extensive than that devised by Professor Killian: it was another method of obtaining the same end. Once the operation was commenced one must continue and cannot change from one operation to the other. The early recognition of nasal accessory sinus disease was important.

Mr. H. TILLEY (London) considered that the association of nasal sinus disease with eye symptoms was overstated. In the majority of cases referred to him in hospital practice he was not able to help the ophthalmic surgeon. As regards vaccine treatment, provided an autogenous vaccine could be obtained, it was of value in a recent case with a pure infection. Vaccine treatment, in his experience, was not of value in chronic cases of mixed infection. He recommended the tincture of iodine in a saline solution for washing out the antrum. After some experience he had given up the intranasal method of treating suppuration of the maxillary antrum and had gone back to the operation through the canine fossa.

Mr. W. S. SYME (Glasgow) discussed the relationships and the part played by the sphenoidal sinus in producing the symptoms under discussion.

Dr. N. C. HARING (Manchester) was desirous of having cleared up the point whether oculo-orbital changes occurred in very slight cases. In his experience he had only seen them in cases in which the nasal disease was very gross. Should a case be due to tuberculosis a combination of human and bovine tuberculin he considered to be a more trustworthy test; of course, the result might be evidence of tuberculous disease in some part of the body other than the antrum of Highmore.

Mr. B. SEYMOUR JONES (Birmingham) spoke of latent disease of the accessory sinuses and of cases presenting ocular symptoms with no obvious nasal disease. If the eye symptoms had persisted for some four or six months ocular relief was difficult; he therefore urged an early investigation of the nose.

Dr. G. F. C. WALLIS (Shrewsbury) considered that a very large majority of the cases of sphenoidal sinus disease was associated with a contracted field of vision.

Dr. DAN MCKENZIE (London) inquired how they were to decide whether any disease of the sphenoidal sinus existed in the cases with ophthalmic symptoms, which might be referred to them, without exposing the sphenoidal sinus.

Dr. W. JOBSON HORNE (London) expressed the opinion that sphenoidal sinus disease was more often diagnosed than it existed. He fully agreed with the speaker who said that vaccine treatment was only of service in recent cases with a pure infection and in which an autogenous vaccine was obtainable. Those cases they could cure without a vaccine. He urged a careful investigation of the large posterior ethmoidal cell, the opening of which was in juxtaposition to that of the sphenoidal sinus, before arriving at a diagnosis of disease in, and before laying open, the latter cavity.

Dr. A. BROWN KELLY (Glasgow) had examined a large number of cases referred to him on account of ocular symptoms without finding a nasal condition to account for the same.

Dr. H. J. DAVIS (London) also narrated an experience similar to the previous speaker.

Dr. L. H. PEGLER (London) and Mr. H. H. B. CUNNINGHAM (Belfast) also took part in the discussion.

The PRESIDENT summed up the discussion. One question, he said, that had been raised was whether they should lay open and explore the posterior ethmoidal and sphenoidal cells in cases which presented no nasal but oculo-orbital symptoms. He considered that they ought not to go to that extent. Vaccines were no good without sufficient drainage; if there was sufficient drainage then vaccines were not required. The departures from the normal anatomy were intricate, hence their difficulties and the dangers resulting from blindly curetting the regions.

Professor ONODI replied. He urged the importance of examining the eye for scotoma and enlargement of the blind

spot. The optic nerve at times passed through the sphenoidal sinus or through the sphenoidal and the posterior ethmoidal cells. The blood-vessels of the optic nerve were associated with the blood-vessels of the sphenoidal sinus and the posterior ethmoidal cells, and therefore infection might readily spread to the optic nerve. For these reasons he considered it better to open the sphenoidal sinus, although some cases might recover without that operation.

Dr. BRONNER, in his reply, said that many cases could not be diagnosed owing to a narrowing of the nostril due to deflection of the nasal septum and other intranasal conditions; possibly that accounted for some of the negative results of the nasal examination of cases referred to them by ophthalmic surgeons.

Dr. DAN MCKENZIE read a paper entitled

Submucous Resection of the Nasal Septum.

One indication for the operation in addition to the relief of the nasal obstruction was the removal of the effects secondary to the obstruction. When sepsis followed the operation it not uncommonly occurred in the form of follicular tonsillitis. In the removal of the vomerine portion, he advised against any twisting manipulation of the part. In 130 cases he had had 16 perforations of the septum. Perforations led to adhesions far back. Perforations did not, in the majority of cases, happen at the operation itself, but subsequently. He mentioned the troublesome sequelæ to the operation.

Mr. SYMS inquired about attempts to repair perforations.

Dr. JOBSON HORNE said that the operation had been in vogue for some five or six years, and the time had arrived, he considered, for a stock-taking of the results. He thought the excellence of the results had been prematurely stated in the past.

Dr. BRONNER and Mr. TILLEY did not look upon a perforation as a tragedy or a disaster.

Dr. PEGLER agreed with what had been said about perforating the septum of the nose.

Dr. A. WYLIE (London) concurred with the views expressed by Dr. Jobson Horne.

Time did not permit of further discussion.

Dr. HUGO FREY (Vienna) gave a lantern demonstration of coloured photographs of sections illustrating the Anatomy and Suppuration of the Internal Ear.

MEDICAL SOCIOLOGY.

FRIDAY, JULY 28TH.

President, Dr. GEORGE REID (Stafford).

Discussion of various methods of carrying out the medical inspection of school children occupied the section at its concluding session.

Dr. S. BARWISE (Duffield, Derby) gave some notes on

School Medical Work in Derbyshire.

He said that finding only a small percentage of the cases revealed by medical inspection obtained treatment, the attempt was made to form a provident club for the whole county. There were 90,000 children on the roll, and circulars were addressed to the parents asking them if they would be prepared to pay 1*d.* per month, or 8*d.* per year in families where there were two or three children, to insure for the examination of their children's eyes, the provision of spectacles, the provision of preventive dentistry, and the treatment of ears, and of adenoids and tonsils. The education committee was prepared to add to the sum thus obtained sufficient to pay for the cost of treatment. The replies to the circular showed that only 40 per cent. of the parents of the county were willing or able to contribute the suggested sums, and it was felt that the number was insufficient to justify any further action in the direction of a complete scheme. A portion of the county having a school population of 20,000 and enjoying better wage conditions was then tried, but the percentage of favourable replies was very little better. A club was about to be started in a limited area, round Claycross, the school children numbering 2000. Treatment would be provided by whole-time officers, as general agreement amongst private practitioners had not been obtained. Dr. Barwise said that he and his committee were satisfied that a provident basis was the proper one on which to provide treatment.

Mr. J. PRIESTLEY (Stafford), in a paper on

General Aspects of School Medical Treatment,

made the preliminary point that it would be quite utopian to hope that every school child could be examined with the microscopic care of a life assurance doctor. Supposing the school inspection staff were doubled or trebled, and each child given a life assurance examination, he doubted whether 1 per cent. more remediable cases would be found than were found now. At any rate, an absolutely complete and searching examination was out of the question in the seven or eight minutes' inspection of each child allowed to them. The illnesses discovered at medical inspection were limited to a few conditions which did not immediately disable the child. All the other illnesses to which childhood was heir escaped the view of the school medical inspector, for the reason that they incapacitated at once, and the children were to be found at home. The prevalent diseases which did come to the knowledge of the school doctor were: (1) pediculosis and skin diseases; (2) adenoid obstruction with deafness and ear discharges; (3) teeth; (4) defects, mainly optical, of the eye; (5) a few orthopædic troubles with which might be associated hernias and cleft palate; (6) stammering, &c.; (7) a few cases of educational difficulty, such as word-blindness; (8) all but the very worst grades of mental deficiency and imbecility; and (9) various grades of debility. It would be noted at once how heterogeneous these things were and how remote several of them were from the daily experience of the general practitioner; they were specialists' work. What were the conceivable methods of dealing with this array of ailments? First, the family doctor doing what he could himself and passing on the patient to various specialists for the things he could not do. On this the obvious comment was, though it would be unfair to press it too far, that the family doctor, where he came in at all, had already been at work and had not called attention to these conditions, or, at any rate, had not succeeded in securing treatment. The drawbacks to treatment through hospitals, which constituted the second alternative, were that hospitals were often too far away from the schools; it was inconvenient to have to attend separate institutions for different ailments; hospitals were intended for more serious and complex cases. After a period of hesitation, in which he inclined to the view that the ideally perfect plan would be to link up the general practitioner in the work, he had come to the conclusion that the school clinic and a special school doctor would do the work more thoroughly, intelligently, and economically. It was with a feeling of sadness that he had reached this conclusion, for he had felt resentment at the growing tide of specialism, and regretted the displacement of the family doctor, who knew his patient if he did not very completely know all his patient's diseases. But the tendency to specialism was the endency to division of labour; they could no more stem one than the other. There was much to be said for the special school doctor. The overwhelming argument in favour of the school clinic was its simplicity of administration and the saving of time to all concerned. The question who should staff the clinic was a subordinate one. He was in favour of treatment being in other hands than those that managed inspection. There should be, however, mutual assistance and friendly coöperation. The director of a school clinic might well be a specialist in children's diseases or a general practitioner who had made a special study of school inspection questions. It must be recognised that the school clinic was only immediately practicable in towns; in the country it was, for the moment, out of the question. Mr. Priestley refrained from going into the question of whether treatment should be free of cost to the parents or not.

Dr. G. A. AUDEN (Birmingham) dealt with

Medical Certificates to Justify Absence from School.

He referred to the difficulty that a certain number of excuses for non-attendance on medical grounds were obtained by parents who had wilfully withheld salient facts. A case of substitution had even come to his notice. There were also a certain number of certificates given without due consideration of the facts of the case, and even without personal inspection of the child who was certified. Children were frequently excluded from school on medical grounds on a rule-of-thumb principle. The child's home conditions had not been taken into account, and it had been deprived of the advantages of school life to be condemned to spend the day

in a sunless alley—an environment in many cases more detrimental to the child's health than attendance at school would have been. Dr. Auden mentioned that in Birmingham large numbers of children had been excluded from school by certificate on account of myopia, but he was glad to say that since a special class for these children had been established medical practitioners had come to appreciate the position, and now, instead of certificates of exclusion, suggestions were received that a particular case was suitable for the special class.

In the subsequent discussion the PRESIDENT gave some particulars of the inauguration of a school clinic in Sheffield, culled from a paper by Dr. Ralph P. Williams, school medical officer of Sheffield, who was unable to be present to read his paper.

Dr. E. H. SNELL (Coventry) urged that only after very careful consideration was a local authority justified in undertaking medical treatment of school children. There were too many existing agencies for treating disease, and a large amount of overlapping. Nevertheless, it must be admitted, having regard to practical experience, that there were certain ailments of school children which were not adequately dealt with through existing agencies. Among these were affections of the eyes, ears and throat, teeth, and ringworm. In his own district most of the cases found their way to the hospital, and there was some difficulty when the hospital asked for a subscription from the local authority, and the oculist engaged at the hospital objected to doing public work for nothing. The council then decided to employ its own oculist and also an ear and throat specialist.

Dr. R WALLACE HENRY (Leicester) thought it would be unfortunate if medical treatment schemes were pressed forward too rapidly in view of the new insurance legislation. It was probable that in a few years women and children would be brought within the scope of the Insurance Bill. Dr. Henry denied, on the basis of experience in Leicestershire, that general practitioners were not in a position to undertake school medical work.

Dr. J. B. BRIERLEY (Manchester) and Dr. ELIZABETH J. MOFFETT (Stafford) put in a plea for clinics.

Dr. F. E. WYNNE (Leigh, Lancs) protested against the exclusion from this work of the general practitioner. He was the proper person to do it, and Dr. Wynne hoped to see school clinics staffed by the general practitioners of each district. Of a large number of children inspected by him 50 per cent. were satisfactorily treated by general practitioners, who were more competent to do the work than a young person just turned out of the hospital or the public health laboratory. The latter were supposed to be specialists in eye, ear, and throat work and mental diseases at the age of 24 and at a salary of £250! Dr. Wynne also touched on the question of how far the various remedial measures now being pressed forward would bring about the survival of the unfit.

Dr. J. C. MCWALTER (Dublin) also enlarged on this point, and the readers of papers having replied, the proceedings of the section terminated.

NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

FRIDAY, JULY 28TH.

President, Dr. EDWIN GOODALL (Mental Hospital, Cardiff).

Mr. R. V. STANFORD, M.Sc., Ph.D. (Cardiff), read a short paper on the

Need for Chemistry in the Investigation of Mental Disease.

Mr. Stanford devoted his paper to a plea for the desirability of chemical research in mental disease. Chemistry will show us the mechanism of the results of clinical and pathological investigation, and the importance of the subject cannot be overestimated. A wide field for research in this respect has been opened up, but not yet actually entered on. Mr. Stanford spoke from the standpoint of the pure chemist, and declared that the expert chemist has a significant part to play in the developments which mental science is yearly making.

Dr. HENRY DEVINE (Long Grove Asylum, Epsom) and the PRESIDENT discussed the paper, both remarking on the advisability of having highly skilled chemists attached to mental institutions where research on modern lines is being prosecuted. The President said that he was struck by the general vagueness and inaccuracy in the employment of what are really chemical terms that vitiated the work of many who are engaged in research in connexion with mental disease.

Dr. DEVINE then read a short paper on

The Significance of Some Confusional States,

pointing out the analogies between day dreams and reveries, and many confusional conditions, and illustrating his remarks by appropriate clinical instances.

Dr. WINIFRED MUIRHEAD (Morningside Asylum) read a communication on

The Wassermann Reaction in the Blood and Cerebro-spinal Fluid in Insanity, and Examination of the Spinal Fluid.

The paper may be summarised as follows: 1. The lecithin and cholesterin antigen has been found a more sensitive antigen than crude extract of ox liver or guinea-pig liver. 2. Excess of globulin in the cerebro-spinal fluid in various psychoses appears, because of its transient nature, to be a product of metabolic change; in those cases where the condition persists the cause might be inflammatory change or marked destructive cell change. 3. The presence of globulin does not coincide in every case with an increase of the quantity of proteid present or the converse. The deduction is that we are dealing with more than one proteid in the cerebro-spinal fluid in insanity. 4. There appears to be no true relationship between excess of globulin in the cerebro-spinal fluid and an increase of lymphocytes. 5. There is evidence that the active principle for the Wassermann reaction is attached to the globulin molecule. 6. In all cases of syphilis and metasyphilis of the central nervous system the spinal fluid showed an increase of globulin with an increase in the quantity of the proteid, as estimated by Esbach's solution, in nearly all cases in a marked degree, and this condition is constant. In nearly all cases a lymphocytosis is also present.

The paper was discussed by Dr. MACKENZIE WALLIS, Dr. G. M. ROBERTSON (Morningside Asylum), Dr. W. J. MIDELTON (Bournemouth), Dr. J. G. SOUTAR (Gloucester), and the PRESIDENT.

Dr. WALLIS read a paper on

Metabolism in the Insane,

consisting mainly of a *résumé* of work already accomplished, and of suggestions for future research.

Dr. MUIRHEAD, Dr. DAVID BLAIR (Lancaster County Asylum), and the PRESIDENT discussed the paper.

Dr. M. D. EDER (London) read a paper on

A Case of Obsession and Hysteria Treated by the Freud Psycho-analytic Method.

A young clerk of 25 had constant pains at the back of the neck during two years. He was depressed and melancholic and was unable to carry out his work. Psycho-analysis, including a series of word-association tests, and an analysis of dreams showed that the patient had certain obsessions and phobias. He had some dislike of going into crowds. Since a child he had been unable to eat in public; for instance, he could not take a meal at a restaurant or a friend's house. He disliked washing himself and never bathed. There were well-marked homosexual tendencies (not practised); ordinary sexual intercourse and marriage were regarded as revolting; and sexual feelings were evinced towards a sister. Psycho-analysis traced the origin of the pain and of these phobias to repressed wishes dating back to childhood or associated with his work. Treatment which lasted three months effected a cure. Similar cases are very numerous; it does not suffice to dub these patients "degenerates." This particular patient, who is quite typical, was a very gifted young man, with noble aims and capable of fine work.

Dr. T. GWYNNE MAITLAND (Sutton) made a few remarks on the paper.

Dr. E. R. SCHUSTER (Aachen) read a paper on

Douche Massage in Diseases of the Central Nervous System.

Douche massage is a process which, coming originally from France, has been practised for many years at Aix-la-Chapelle, Germany, mostly for complaints such as gout, chronic articular rheumatism, and chronic neuralgias, among these especially for sciatica. It has also been successfully employed as an additional form of treatment in sensory disturbances and motor paralyses, arising, for

instance, from tabes, spinal myelitis, arteritis, or gummatous lesions in the brain and spinal cord. The method is briefly as follows. The patient sits in the basin of the bath. The douche consists of a strong stream of thermal water issuing from a mobile tube of 5–10 mm. diameter and a temperature of 35°–37° C. This powerful stream, of a pressure of about 1–1½ atmospheres, is applied for 10 to 20 minutes gradually to all parts of the body, beginning with the feet, whilst massage by hand is being made use of at the same time. After this application the patient remains in the bath (which should reach up to his neck) for another 10 to 15 minutes. This treatment, which may possibly be considered somewhat drastic if applied to severely affected cases of the central nervous system, can easily be modified to suit individual requirements. By the douche no dangerous change in the bodily equilibrium or in the blood pressure can be brought about, as has been proved by Dr. Schuster's special studies with Recklinghausen's tonometer. Patients also with heart disease and persons of advanced years who have been suffering from arterio-sclerosis, emphysema, varicosis, or even venous thrombosis have been put through this treatment, not only without any danger, but with most satisfactory results. In some cases of locomotor ataxia very painful hyperæsthesia has been considerably relieved and sometimes cured, the treatment being applied in a very mild form. For patients suffering from motor paralysis douche massage is prescribed in medium strength. In hemiparesis or paraparesis of not too old-standing, paralysed muscles, as a rule, regain their normal functions quicker than after treatment by electricity or simple massage. Douche massage offers a very useful addition to the customary and recognised methods of treatment employed in diseases of the central nervous system.

Dr. F. E. BATTEN (London) said that douche massage coupled with mercurial inunction, in syphilitic cases, was very beneficial, and English medical men thoroughly appreciated the value of the treatment as carried out at Aix-la-Chapelle.

The PRESIDENT also discussed the paper.

OBSTETRICS AND GYNÆCOLOGY.

FRIDAY, JULY 28TH.

President, Professor EDWARD MALINS (Birmingham).

Dr. E. HASTINGS TWEEDY (Dublin) read a paper on

The Cause and Cure of Eclampsia.

He stated that during his seven years' mastership at the Rotunda Hospital 74 cases of eclampsia had been treated, with a mortality of 8·11 per cent. This extremely low death-rate for the disease in question could only be explained on one of the following assumptions—viz.: (1) that the disease is of a milder type than formerly; (2) that there is greater laxity of diagnosis; and (3) that the treatment is more satisfactory. As regards the first proposition it was impossible to believe that throughout seven successive years a mild type of the disease should persist. Laxity of diagnosis certainly could not be cited as the cause, as very stringent precautions were made only to include true and undoubted cases in the statistics. All deaths associated with convulsions occurring after the sixth month of pregnancy were diagnosed as eclampsia. Deaths before the sixth month were only catalogued according to the pathological findings. No woman who had previously suffered from fits, epileptic or otherwise, was counted as an eclamptic. An unconscious toxic woman with albuminuria after the sixth month was considered to be suffering from the disease, but no convulsions were recognised unless they were associated with albuminuria. The third suggestion must therefore be the correct one. Treatment certainly had a very important bearing upon the ultimate issue of a particular case. The introduction of morphia in the treatment of this disease by Sir William Smyly was an instance in point. During the period of his assistant mastership at the Rotunda Hospital the speaker had been impressed with the fact that medicines or food should not be placed in the mouth of an unconscious woman, and in 1896 he advocated the treatment of eclampsia by gastric lavage, cupping to the loins, and the administration of purgatives by the stomach tube. He then emphasised the importance of the "side" position to allow the escape of mucus, and he was a firm believer in the use of morphia. He now propounded the theory that food was the primary cause of the toxæmia and heart failure, and that the milk and whey so frequently administered to eclamptic patients were distinctly harmful. The disease is possibly due to some degeneration of the gastric and intestinal mucosa. It is well known that degeneration of the renal, pancreatic, and hepatic epithelium occurs during pregnancy, and it would be somewhat remarkable if changes did not occur in the cells lining the alimentary tract. It is also known that pregnant women do not drink sufficiently, they often bolt their food (especially eclamptics), and the majority suffer to a more or less extent from various "cravings." The speaker suggested that an anaphylactic condition was developed. The association of morbid symptoms with the ingestion of milk or whey suggested the elimination of all food in the treatment of eclampsia, and he was now able to produce a series of 29 successive cases with no mortality extending over a period of two years nine months. The treatment now advocated is: (1) the suppression of all food, even after consciousness has returned; (2) the exhibition of morphia in repeated doses until the respiration falls even to 6 or 7 per minute; (3) gastric lavage and efficient purgation; (4) intestinal lavage with sodium bicarbonate, using one to one and a half pints of fluid at a time until the return is quite clear; and (5) the assumption of the lateral position. Should spasm of the glottis occur the attendant must draw the head and shoulders of the patient over the end of the bed and turn the face towards the floor. This manœuvre is most efficacious and emphasises the importance of a skilled assistant being always present. Benefit is sometimes obtained from the use of oxygen, linseed meal poultices to the loin, and infusions of plain water. Laking of the blood need not be feared from the latter. Accouchement forcé should be avoided and forceps are very rarely required. Chloroform should only be administered in doses of 12 to 15 minims from time to time to aid the performance of gastric lavage or infusion, as suggested by Stroganoff. In conclusion, Dr. Tweedy remarked that no disease requires more careful and thorough treatment and need of skilled attention.

Dr. A. W. RUSSELL (Glasgow) deplored the calamities that so frequently attend the treatment of eclampsia. He regarded preventive measures as most important. Personally, he had a profound distrust of morphia, and did not favour chloroform. He thought that some other anæsthetic should be administered if necessary, and mentioned details of a case in which Cæsarean section had saved the lives of both mother and child.

Dr. R. C. BUIST (Dundee) thought that it was impossible to lay down any one theory to explain the disease. "Toxæmia" is a word only, and in relation to eclampsia is but little understood. He agreed with the free use of morphia, and quoted Veit's work.

Professor PAUL STRASSMANN (Berlin) congratulated Dr. Tweedy upon his results, and asked how his theory would explain the frequency of the disease in primiparæ and twin pregnancies. He insisted on the demonstration of albuminuria in all cases of eclampsia.

Dr. THOMAS WILSON (Birmingham) congratulated the author of the paper on the excellent results of his comparatively long series of cases. He insisted that the treatment of eclampsia and albuminuria are very different things. He was interested in Dr. Tweedy's theory of causation, and especially applied it to the severe post-partum cases. Here it certainly could not arise from fœtal or placental toxæmia. He referred to the suggestion that the breasts may be the underlying cause, and cited a remarkable instance where amputation of both breasts was followed by recovery.

Dr. F. EDGE (Wolverhampton) asked for details of the milk supplied to the eclamptics in Dr. Tweedy's cases that terminated fatally.

Dr. E. SMALLWOOD SAVAGE (Birmingham) asked if any previous gastric trouble—e.g., atonic dyspepsia—had been noted in any of Dr. Tweedy's cases. He had frequently noted "retraction" or "splashing" in the examination of obstetrical patients.

Dr. R. J. JOHNSTONE (Belfast) was glad to hear that chloroform was not advocated as a routine method of treatment in eclampsia. On the other hand, he was not prepared to admit that accouchement forcé if properly performed was so deadly, as Dr. Tweedy had stated. He also referred to a successful case of renal decapsulation occurring in his

practice. The operation is very easy, and in his case the benefit was immediate.

Dr. TWEEDY, in reply, referred to the series of 400 cases published by Stroganoff and remarked that in the treatment of the actual convulsion he and that author were at one. He considered it a great error to give salines and thought that sodium bicarbonate is infinitely better. He also thought that the occurrence of eclampsia in primiparæ and twin pregnancies helps to strengthen his theory. Possibly a certain degree of tolerance to the toxins is acquired in subsequent pregnancies which is absent in primiparæ.

Dr. J. NIGEL STARK (Glasgow) read a paper on

The Dangers of Fibromyomata of the Uterus in the Later Years of Life.

He observed that these dangers are not sufficiently appreciated by the profession, and that a much larger number of women die from fibroids, directly or indirectly, than is generally thought to be the case When a woman reaches the menopausal age many practitioners advise against operation for this condition. Too often cessation of the bleeding is waited for, a cessation that may never occur. He therefore urged that operative measures be employed more frequently, and brought forward the following reasons in support of his contention: (1) the future behaviour of any individual growth cannot be foretold; (2) there is no certainty against serious degenerations; (3) various complications may ensue if the neoplasms are allowed to remain; and (4) operations for fibroids are not so serious at the present day as formerly. The speaker then proceeded to detail some of the complications and degenerations that may affect fibromyomata in later life. Sepsis and necrosis are not at all an uncommon event, and a neoplasm that has remained small and quiescent may only give presence of its existence by this complication. Details were furnished of a case where a tumour had been known to exist for 20 years. A foul vaginal discharge and hæmorrhage necessitated operation. Double phlebitis supervened and caused the death of the patient. Had an operation been performed 20 years previously, when the growth was healthy, without doubt the patient's life would have been saved. In fact, necrosis is one of the most dangerous and frequent accidents that may occur to a fibroid in the later years of life. Two-thirds of all such cases occur between the ages of 40 and 70. Another not infrequent accident is retention of urine with all the sequelæ of cystitis, pyelitis, &c. This may arise from increase in size of an intrapelvic tumour or from prolapse of a fibroid into the pelvis. Tumours in which calcareous degeneration has occurred have a special danger in that they may produce friction of intestine or omentum and be the exciting cause of a carcinoma. Details of two such cases were given. Again, the mere prolongation of bleeding long after the menopause has a very deleterious effect and may produce such a profound degree of anæmia as to preclude any operative measures for its relief. Finally, there is always the possibility of malignant disease supervening upon a fibroid neoplasm. Carcinoma of the body of the uterus develops in 2 per cent. of all fibroids that come under treatment.

Dr. WILSON communicated a paper on

Dysmenorrhœa due to Very Small Fibroids.

He stated that in some cases of dysmenorrhœa palliative measures are of little avail, and that it is necessary to perform a radical operation to restore the patients to health and prevent the acquisition of drug habits or similar ills. He had an experience of eight cases in which it had been necessary to remove or explore the uterus for dysmenorrhœa. In several instances he had been surprised to find very small fibromyomata present. These neoplasms were too small to diagnose by the usual methods of examination, but their association with the menstrual pain was too frequent to be a mere coincidence. He suggested, therefore, that they bore a direct causal relationship to the dysmenorrhœa. In two instances very small submucous fibroids had been found near the fundus. In a third case an interstitial growth, 7 mm. in diameter, was exposed in the anterior wall of the uterus at the level of the os internum. Dr. Wilson proceeded to give details of cases in support of his thesis. The first patient quoted was a woman of 40 who had begun to menstruate at the age of 17. The periods were always associated with much pain, and at 24 the uterus was dilated and curetted. No relief was obtained, and at 28 she appeared prematurely old and ill. Curettage was again performed with but little benefit. At 32 she was admitted to the General Hospital, Birmingham, and the uterus was removed by the abdominal route. A small fibroid was found at the level of the isthmus. Recovery was rapid, and two years later the patient was well and strong. At the present time, six years after the operation, she is in excellent health and has had no return of abdominal pain or discomfort. At the time this operation was performed the relationship between the minute fibroid and the dysmenorrhœa was not appreciated. The occurrence of other cases, however, established the fact, and the history of a patient operated upon in 1910 conclusively proves the connexion. A single woman of 32 complained of severe griping pain on the second day of each period, necessitating rest in bed. A very small tumour was palpated in the posterior wall of the uterus and vaginal cœliotomy was performed. In the left posterior wall of the uterus a small fibroid of the size of a hazel-nut was removed. The uterine wall was sutured with catgut and the patient rapidly recovered. The after-history is perfectly satisfactory and she now writes that she "never has trouble from the pain I used to dread so much." In conclusion, Dr. Wilson remarked that the pain in these cases is not comparable to that produced by a polypus. The ideal treatment is obviously hysterotomy and myomectomy, but he thought that hysterectomy will frequently be performed in the future because the fibroids are so small and cannot be found.

Professor STRASSMANN observed that 30–40 per cent. of all patients with fibroids complain of severe dysmenorrhœa. He could recall an instance where the abdomen was opened to explore for the cause of dysmenorrhœa, and 10 or 12 minute fibromyomata were discovered. He believed that hysterotomy was the right procedure in future in all incurable cases of dysmenorrhœa.

Dr. TWEEDY thought that from a practical point of view the degenerations of uterine fibromyomata after the menopause were not of great importance. What was important, however, was the "cancerous" change referred to by Dr. Stark, and he considered that it was criminal to treat a patient with fibroids palliatively when symptoms developed after the menopause. He agreed with Dr. Wilson in that small fibroids were very apt to be missed, and said that in view of the details brought forward the right course in all persistent cases of dysmenorrhœa was to operate. He suggested that the uterus should be split sagittally and re-sutured.

Dr. RUSSELL thought that Dr. Tweedy had not laid sufficient stress upon the dangers of degenerative changes in fibroids. All recent work tended to show the importance of early operative interference.

Dr. BUIST agreed that all patients with fibromyomata ought to be kept under observation, and that the orthodox teaching that the symptoms associated with fibromyomata cease at the menopause is wrong. The mere involution of a fibroid may cause trouble. He was very interested in Dr. Wilson's paper and considered it important, in that it justified further possibilities of examination in the case of patients with dysmenorrhœa. Hitherto, after dilatation of the cervix and curetting one had to be satisfied with palliative measures, but now it was possible to suggest vaginal hysterotomy.

Mr. J. W. BELL (London) advocated hysterectomy for recurrent dysmenorrhœa due to fibroids on account of the possibility of recurrence or "seedling" tumours.

Dr. STARK, in reply, remarked that at the present time far too many deaths result from uterine fibroids. Furthermore, deaths after the menopause were not uncommon from this cause apart from carcinoma.

Dr. WILSON, in reply, said that the difficulty experienced in most cases was to find the fibroid. Hysterotomy and myomectomy were without doubt the right treatment, but if he had to perform hysterectomy he would remove the ovaries also. He considered that the patients thereby passed through a better menopause.

Dr. C. E. PURSLOW read notes upon a case of

Tuberculous Elephantiasis of the Vulva,

and illustrated his remarks by specimens and photographs. The patient, aged 37, was admitted to the Queen's Hospital under Dr. Purslow's care in May, 1910, when she said that the vulvar symptoms had been in existence for three years. In 1904 she had undergone laparotomy for tuberculous peritonitis at the hands of Mr. Christopher Martin at the Women's Hospital, and in July, 1895, while still under Mr. Martin's care,

an ulcer developed on the left labium majus. This was thought at the time to be venereal, but no further specific symptoms developed, and later the glands in both groins suppurated, leaving extensive scars in the inguinal regions. On admission to the Queen's Hospital, as stated, under Dr. Purslow, it was found that both labia majora and minora, clitoris, and mons veneris were involved in a diffuse hypertrophy. The papillæ of the dermis were much enlarged, and the whole formed a soft, oozing swelling. A mass of suppurating glands was present in each inguinal region. The condition was aggravated by the use of X rays and various local applications, and therefore the parts were excised. Microscopically there was a great increase in fibrous tissue. Near the periphery the tissues were œdematous, and there was a tendency to shed the superficial layers of the epithelium. The changes were those of chronic hypertrophy. From a survey of the literature Dr. Purslow was of the opinion that this case was probably tuberculous in nature. A fortnight before the reading of his paper the patient presented herself with commencing recurrence of the condition in the area round the previous excision. The prognosis is usually bad.

Mr. CHRISTOPHER MARTIN (Birmingham) quite agreed with the view that the lesion was probably tubercular in origin. When he first saw the case he thought that it was a combination of syphilis and tubercle. The failure of all anti-syphilitic remedies had proved the absence of syphilis.

ODONTOLOGY AND STATE MEDICINE.

FRIDAY, JULY 28TH.

President, Professor FRANK EARLE HUXLEY (Birmingham).

The final meetings of the Odontology Section were, as determined last year in London, combined with those of the State Medicine and Industrial Diseases Section. The PRESIDENT occupied the chair. Four papers were read consecutively, and a discussion then took place on the whole subject of "The Teeth in Relation to Public Health."

Dr. JAMES WHEATLEY (Shrewsbury) communicated a paper on

The Prevention of Dental Caries from a Public Health Standpoint.

He believed that the physique of the nation would be vastly improved by the eradication of dental caries, a matter which needed as much, if not more, attention by the authorities than even that of tuberculosis. There were abundant evidences that dental caries was on the increase in these islands, one reason being that no public body had, until quite recently, felt the necessity of dealing systematically with the subject. He gave some advice regarding the feeding of children to this end, and condemned the use of bread soaked in milk, patent foods, newly baked bread, and food taken in a liquid or minced form. He emphasised the value of the habit of mastication and the use of fresh fruit as the last item of the meal, and pointed out that oral breathing should be treated and corrected. He deprecated the use of sweets, and gave a list of "cleansing foods" such as fresh fruits, raw vegetables, meat, fish, bacon, and toasts and crusts of bread made from wholemeal flour.

Mr. A. HOPEWELL-SMITH (London), in a paper on

The Abuse of Sweetmeats,

alluded to the value of sugar—cane sugar—as a food and the enormous increase in the manufacture of sweetmeats in recent years in this country, and computed the number of confectioners in Greater London as being over 4500. He inveighed against the common practice of exposing sweatmeats for sale in dusty, dirty streets, and in shops with open windows and doors where they could be freely contaminated by the house-fly and other pests. The artificial colouring and constituents of the commoner sweets were described, together with their relative solubilities. The main feature of the paper dealt with many new and original experiments carried out *in vitro*, undertaken by him to ascertain whether and in what ways the oral secretions are altered in their nature, chemical reactions, and amounts by the use of sweetmeats, to compute the reactionary variations between the salivas of immunised and non-immunised persons, and to determine whether caries of enamel could be artificially produced in the laboratory by placing typical sweetmeats on the free surfaces of human teeth. It was thus shown by means of diagrams, bacterial cultivations, &c., that some sweets, such as acid drops, barley sugar, sugarless chocolate, &c., were bacteriophobe, and chocolate, toffee, caramel, &c., bacteriophile. Parents should not allow children to indulge in sweatmeats; if they must eat them, then only those made from pure sugars free from adulterations should be employed at, and not between, meals. He concluded by stating that, in his opinion, confectionery factories and the wares of sweetmeat vendors should be placed under State control.

Mr. C. E. WALLIS (London) spoke on the subject of

Infant Feeding.

The poorest of the children attending the London County Council Schools had better teeth than those of a higher type. The teeth were not necessarily clean, but he considered 40 or 50 per cent. of mouths showed perfect dentition—on account of the fact, he believed, that they could not afford to pay for luxuries. He considered cider harmful to the teeth.

The detergent effect of the crust of bread formed the main theme for Dr. J. SIM WALLACE (London) to describe the good effects by mastication of bread.

The Bread Question.

He compared white, standard, and stone-milled breads, and pointed out that all were equally efficient in cleansing the teeth and preventing the initiation of dental caries. He protested against the use of bread soaked in milk and bread and marmalade, and narrated some experiments which he had conducted to ascertain the acidity of the saliva when these materials were taken into the mouth and chewed in the usual way.

In the ensuing discussion Dr. WOODS HUTCHINSON (New York) disputed some of the statements that had been made, and said that "decay" of the teeth was no worse to-day than 150 years ago. The use of sugar in America and amongst the soldiers in the Philippines was believed to counteract the tendency for the consumption of alcohol. Candies helped to build up the bodies of the young, and he personally was not afraid of the effects that bread was said to have upon the teeth.

Professor BOSTOCK HILL (Birmingham), while agreeing very largely with what had been said, believed that it was rare to find sweetmeats actually contaminated with substances such as arsenic.

Dr. C. W. HUTT (Warrington) asked a question, and Mr. A. S. UNDERWOOD (London) protested that, from the evidence of human skulls which he had examined, caries of the teeth was actually on the increase. A great deal of immunity existed among the aboriginal races of mankind.

The PRESIDENT spoke about the abuse of sweetmeats, and after Mr. H. S. STEYNOR (Malvern) had described a case dealing with the subject, the readers of the various papers replied; and subsequent to the passing, with acclamation, of Sir Victor Horsley's resolution submitted to the meeting on the opening day, the session was closed. That resolution was as follows:—

That the Section of Odontology request the Council of this Association to urge upon the Board of Education the need of pressing the local authorities to establish school clinics as being the only means whereby the dental and medical requirements of the elementary school children can be adequately and economically treated.

OPHTHALMOLOGY.

FRIDAY, JULY 28TH.

President, Mr. HENRY EALES (Birmingham).

Professor JOHN BERRY HAYCRAFT (Cardiff) demonstrated a delicate method of mapping out the blind spot of the retina and the new observations of the character of that spot which he had obtained by his instrument. The feature of his observations was the variation of the area of the blind spot according to the colour of the object exhibited. Working with colours of equal intensity or luminosity, he found that the blind area was smallest with grey and of gradually increasing size with blue, yellow, and green, and largest with red. The order in which the colours are placed in this observation was the same as that found in mapping the perimetry of the field. He laid stress upon the necessity of equal luminosity of colour objects, and showed how he had obtained these by means of Abney's rotating sectors.

Mr. J. H. TOMLINSON (London) showed his "Scotomograph." This instrument enabled the fields to be taken in the dark—a matter of particular necessity in determining small scotomata and variations of the blind spot. The delicacy of the instrument could be shown by the manner in which the

main retinal vessels could be mapped out for a considerable length.

Dr. F. W. EDRIDGE-GREEN (London) said that the intensity of the colour of the object with which a test was made greatly altered the bounds of the periphery of colour vision. Given a colour of sufficient intensity, it was possible to trace colour vision to the extreme periphery. He did not agree with Professor Haycraft that Abney's rotating sectors was a satisfactory instrument for obtaining colours of equal intensity.

Mr. T. HARRISON BUTLER (Coventry) said a disability arose in the case of Mr. Tomlinson's scotomograph from the liability of the eye under examination to undergo dark adaptation. This, he thought, would render the instrument unsuitable for ordinary practical purposes of examining patients, though its scientific value might be great.

Professor HAYCRAFT, in reply, said he had recognised the points brought forward by Dr. Edridge-Green, and in his experiments had used colours of the same size which were matched for equal intensity with yellow; this he found satisfactory.

Mr. TOMLINSON, in reply, said that it was possible that with extended observations, such as his instrument would permit, they would have to readjust their canons of perimetry.

Mr. A. F. MACCALLAN (Cairo) read a paper on

Egyptian Ophthalmic Hospitals.

Ophthalmic relief work, he said, had extended considerably in the past year; two built hospitals were in operation, three others were being built, and the money for two more was obtained. Thus seven of the 14 provinces would have a well-built and equipped hospital. That was an advance; but the need was even greater than the provision. About 97 per cent. of fellahin had some form of eye disease, chiefly trachoma, with resultant trichiasis. The demand for treatment could be gauged by the fact that at the three hospitals at work in 1910 more than 8000 such cases were seen, but their staff and space only permitted 2000 to receive the necessary treatment of operation. A policy of extension was desirable, and should be carried out on the lines of the travelling hospitals founded by Sir Ernest Cassel. With it would come the development in each province of a system of small travelling hospitals, one for each police district. To these the permanent hospitals would act as a base, to which serious cases would be sent. This policy had been started in one province at the instance of H.E. Moheb Pasha.

Professor R. A. REEVE (Toronto) asked what precaution was taken against trachoma in case of cataract operations.

Mr. N. BISHOP HARMAN (London) asked what degree of bad vision constituted blindness in Mr. MacCallan's returns.

Mr. HARRISON BUTLER said that during his work at Jerusalem he found nearly every cataract patient had trachoma; it did not prevent successful operation unless there was an intercurrent catarrh.

Colonel HENRY SMITH, I.M.S., did not agree that trachoma was no drawback to operation unless it was of the smallest degree; he was accustomed to take particular precautions in flushing the conjunctiva with fairly strong antiseptic lotions.

Captain A. E. J. LISTER, I.M.S., agreed with Colonel Smith.

Mr. MACCALLAN, in reply, said that in his figures those whose vision did not exceed detection of fingers at the distance of 1 metre were counted as blind. As regards trachoma contra-indicating intra-ocular operation, he agreed with Mr. Butler that it did not constitute a bar; nevertheless, he was accustomed to use efficient antiseptics.

Miss AMY SHEPPARD, M.B. (London), read a paper entitled,

Extraction of the Lens in its Capsule, with Special Reference to Colonel Smith's Operation.

The paper "was intended to suggest that extraction of the lens in its capsule was the operation of election in the great majority of cases of operable cataract, excepting those of children and young people, and a few very hypermature senile ones. It was indispensable in that it was the only safe and effective operation in immature cases." The paper was based on personal observation of 650 such extractions of which Miss Sheppard had performed 260 under the supervision of Colonel Smith at the Civil Hospital, Amritsar, Punjab, between February and April last. The stages of the operation were described in detail, and also the manner in which the lens was dislocated by the pressure of the point of a squint-hook applied to the lower quadrant of the cornea. Certain points of importance were dwelt upon, such as the necessity for a clean cut of the cornea by a single sweep of the knife; a jagged cut from a sawing movement tended to delay healing; the necessity for a large incision to permit escape of the large encapsuled lens; the necessity for a skilled assistant to manipulate the brow and upper lid of the patient. On the differences manifest between this operation and that performed with capsulotomy it seemed that replacement of the iris was rather more difficult, and there was a greater tendency to a wide and ill-shaped coloboma. Escape of vitreous occurred in from 5 per cent. in skilled hands to a variable and larger percentage in unskilled hands. One pupil had 21 losses in the first 100 eyes and only four in the last 100. The advantages claimed for the operation were lesser liability to irido-cyclitis from the irritation of retained lens cortex, or incarcerated fragments of capsule; complete absence of "after-cataract" and the risks attached to needling operations; that it was the only operation effective in the removal of immature cataract.

The PRESIDENT said one serious objection that almost precluded the use of the operation in ordinary practice was the necessity for a highly skilled assistant. Miss Sheppard's suggestion that it was the only satisfactory method of dealing with immature cataract did not agree with his experience. For many years he had performed Förster's operation and had found it most excellent. By this means over 200 cataracts had been artificially matured, and subsequently removed with rather more ease than an ordinarily ripened cataract.

Colonel SMITH wished to thank Miss Sheppard for the trouble, time, and expense she had expended in investigating the operation under discussion. In commenting upon certain criticisms that had been advanced by Colonel Herbert in the press, he (Colonel Smith) would remark that Herbert's experience had been in Bombay, whilst his was in the Punjab; the people and the governments differed, and that affected the possibility of getting satisfactory statistics of the subsequent history of patients. He hoped at no distant date to publish such statistics. Capsulotomy operations, he maintained, were unsurgical, for the whole of the cataract was not removed. The capsule had no utility save as a covering for the lens. In his operation iritis was very rare; it was common in capsulotomy operation for these two reasons. To leave fragments of the lens or capsule made the operation as incomplete as would be the leaving a fragment of stone in the bladder after a lithotopaxy.

Professor REEVE agreed with the President that Smith's operation was not the only satisfactory means of dealing with immature cataract. He had practised McKeown's irrigation method with very safe and satisfactory results. It had enabled him to reduce materially the time of blindness which afflicted these patients.

Dr. J. O. MCREYNOLD'S (Dallas, Texas) said the attitude of Americans who had had opportunity of studying Colonel Smith's method was interesting. They had not adopted it as a regular practice, though some had secured very satisfactory results by the method, others had modified it, one devising a method of rupturing the ligament by means of a special instrument passed within the anterior chamber.

Dr. J. GRAY CLEGG (Manchester) said he had done Smith's operation upon six cases in the past few weeks. He found the necessary pressure far less than he had anticipated; the operation was safest when the incision was very large, even to nearly half the cornea. Recovery was not so uncomplicated as the statistics indicated, perhaps because he could keep touch with his cases satisfactorily, which could not be done in India. His conclusion was that the complications of this operation were chiefly during operation and not after; nevertheless, the patients remained rather longer in hospital than when capsulotomy was done.

Mr. A. W. ORMOND (London) took strong exception to the statement made by Miss Sheppard that intracapsular extraction was the operation of election. He could not allow that any operation that necessitated the mutilation of the iris was a perfect operation. Iridectomy might facilitate operation, but the difference in the ultimate comfort to the patient of a clear round pupil and a coloboma of even the most superior order was striking.

Major ELLIOTT said he had studied this operation at Jullundur, and paid a warm tribute to the work and personality of Colonel Smith and the manner in which he put his experience and resources at the disposal of any inquirer. In his view, what they most wanted at the present time was not further eulogies or descriptions of the operation, but statistics of the operative and post-operative results for an extended period and on a sufficiently large scale. Statistics were an absolute necessity. The after-results of capsulotomy operations were well known and constantly increasing in weight; the same must be had for the intracapsular operation. He thought the advocacy of a one-sweep cut of the cornea was dangerous; two or three movements of the knife need not produce a jagged edge nor delay healing. With regard to the alleged danger of retained capsule and cortex, he denied the terrors of such conditions unless the capsule was entangled in the wound. He did not agree with Mr. Ormond that the "simple" extraction was the proper operation. Iridectomy should be done; there must be an open sluice-gate for the escape of aqueous.

Captain LISTER said he had traced 98 cases in which there had been escape of vitreous during operation, and the condition of these eyes showed that a small loss was not dangerous. It was certainly much less dangerous than a similar accident in capsulotomy operation, and, he thought, because no lens matter remained to set up irritation. He acknowledged that climatic conditions had immense influence in affecting sepsis. His experiences in the warm, moist climate of Calcutta was not nearly so good as in the clean, dry air of the Punjab.

Miss SHEPPARD, in reply, said a skilled assistant was desirable, not absolutely essential. Iridectomy was usually performed but not invariably. She drew attention to the statistics of cataract extraction for the whole of India. There were 14 per cent. of losses from all causes.

Mr. LEONARD J. C. MITCHELL (London) presented a report on

The Use of Carbondioxide Snow in Ophthalmic Work.

He said that the work reported in his paper followed upon the exhibition of the use of the snow and the paper read thereon by Harman and Morton at the last meeting of the Association. His method of handling the liquid gas and the preparation of the solid pencil did not differ materially from theirs, and he insisted that elaborate and costly apparatus was wholly unnecessary and even troublesome. He had used the snow in the treatment of: 1. Rodent ulcers with great satisfaction; he emphasised the necessity of making the maximum application to the growing edge of the ulcer. 2. Trachoma, for which its use had been widely tested at the Royal London Ophthalmic Hospital. The application brought on a smart vascular reaction in the whole conjunctiva, and the beneficial results were attributable to this inflammatory reaction. It was desirable to carry the freezing to a point just short of destroying conjunctiva tissue. 3. In spring catarrh an absolute cure was obtained in a long-standing case by three applications of 15 seconds. 4. In lymphatic nævi of the conjunctiva excellent results were obtained.

Mr. C. DEVEREUX MARSHALL (London) said the use of carbondioxide snow was a most interesting method of treatment, and the results obtained therefrom most satisfactory.

Colonel SMITH said the essential factor in the treatment of trachoma was the production of hyperæmia.

Mr. BISHOP HARMAN read a paper on

The Blind and the Census of 1911.

He said that in earlier Census papers the term "blind" was used without qualification in the schedule. In the paper issued this decennial year a new description was employed, "totally blind." The addition of the adjective, he held, had destroyed the usefulness of the Census so far as enumeration of the blind was concerned, both by unduly limiting the inquiry and by presenting a conundrum of no little difficulty to those who had to fill in the Census paper. A census of the blind had no interest or utility unless it bore a real relation to the number of those "blind for the practical purposes of life." If it gave any reliable indication of those people then it had a real utility. A list of the "totally blind" had no such use. To-day social and industrial conditions increased the number of those who were blind for practical purposes. Employers' Liability Acts had increased the risks of employment of those whose sight was seriously defective and diminished their chances of employment in competition with the normal-eyed. These conditions gave rise to a demand for special workshops for blind persons, and it was necessary on this account to have a reliable enumeration of those blind for practical purposes. He said that with this view a deputation, of which he was a member, had waited upon the Registrar-General asking for a two-fold enumeration: (1) blind; (2) partially blind. But the issue of the Census proved they had not succeeded. In the London County Council blind schools he had oversight of 326 blind children; he had inquired of their parents the nature of their returns on the Census papers and 312 had replied. Their returns were as follows: Totally blind, 83; partially blind, 120; no entry made, 109. He pointed out that it was remarkable that more than one-third of the parents made the return of "partially blind," just the return that their deputation had begged of the Registrar-General. No suggestion of this mode of return had been made to the parents, so that their action proved the need for, and the naturalness of, the provision they had desired. Analysis of the condition of the eyes of these 312 children from the detailed case papers gave the following comparison of the parents' returns with the real state of affairs:—

—	Blind.	Partially blind.	No entry.
Parents' returns	83	120	109
Analysis by N.B.H.	153	143	16

The totally useless and even misleading nature of the official Census returns is obvious from such a comparison. It is even more remarkable when the state of these children is considered individually. Take, for example, those who, according to the analysis, should have been returned as blind. Of the 153 so returned, 59 had no perception of light, 33 some perception of light, and 61 could detect hand movements or fingers from 10 cm. up to 1 metre. Of those given in the analysis as "partially blind," no more vision was permitted than the ability to see some letter of Snellen's type at any distance the child liked and under the most favourable condition (with the exception of such cases as retinitis pigmentosa). Of the children for whom the parents made no return, only 16 could under any reasonable enumeration be omitted from the schedule of the blind, and these were myopes for whom no accommodation could be found in the myope school. Mr. Bishop Harman urged that all those surgeons who had care of blind schools, or who were able to trace the blind who had been trained in them, should endeavour to obtain similar returns to those he presented, so that a large body of evidence might be gathered to present to the Registrar-General. He suggested that the Council of the Association might fittingly take evidence by a special committee.

The PRESIDENT said that the figures Mr. Bishop Harman had presented were most impressive; he regretted that he had not given due notice for the bringing forward of a motion on the subject.

Mr. C. W. HUTT (Warrington) said the chief medical officer of the Board of Education should be approached on the matter.

Dr. A. HUGH THOMPSON (London) asked what were the limits of Mr. Bishop Harman's group of "partially blind."

Mr. CHARLES WRAY (London) complimented Mr. Bishop Harman upon a satisfactory completion of a very difficult piece of inquiry work. He thought that any rigid term of definition for the "partially blind" dangerous; none could include all those who were "blind for practical purposes."

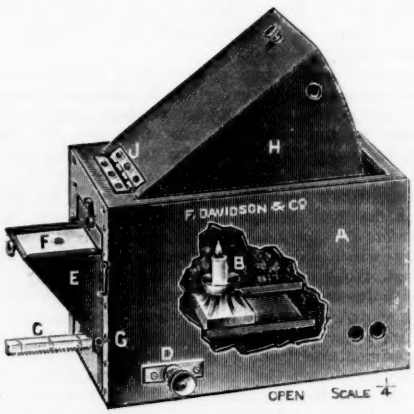
Dr. CLEGG said that restriction of the field of vision was as important a condition of partial blindness as loss of visual acuity.

Mr. BISHOP HARMAN, in reply, said that he agreed with both Dr. Thompson and Mr. Wray that any rigid definition of "partial blindness" was impossible. For certain purposes, such as Census returns, no definition was necessary; the terms "blind" and "partially blind" were sufficiently definitive for the ordinary citizen to appreciate their meaning, and to secure an average correct return.

Mr. BISHOP HARMAN exhibited a

New Photometer for the Use of School Medical Officers.

The instrument was based upon the well-known grease-spot photometer of Bunsen, which, although a standard instrument for the laboratory bench, was unsuitable for use in school class-rooms. In the instrument shown (see accompanying illustration) the standard sperm candle (B) was enclosed within a box measuring 8 × 5 × 3 inches. The top (H) could be raised to form a chimney



and the front swung outwards to form a platform (E), within which was a reflector, and on the top a sheet of thin paper (F) to form the grease-spot screen. The candle was moveable forwards, nearer, or farther from the reflector by means of a ratchet and thumbscrew (C and D). When it was desired to measure the illumination of any part of a class-room—say, that falling upon any of the desks—the box would be placed in position, with the chimney up, the screen out, and the candle lighted. Then the candle would be racked forward until the spot (F) appeared faintly illuminated; this was the indication that the light within the box, under the particular conditions of position and reflection, just exceeded in power that falling upon the screen from without. The value of the illuminant could then be read off in foot-candles upon the racked bar (C) which protruded gradually with the forward movement of the candle. The screen within the platform (E) is tinted green so as to absorb the red rays in the candle flame. Usage of the instrument shows that it is handy, gives a sufficiently wide range of measurement, and that it is accurate within the necessity of school work. The photometer is made by Messrs. F. Davidson and Co., of 29, Great Portland-street, London, W., and it is inexpensive.

PATHOLOGY.

FRIDAY, JULY 28TH.

President, Professor R. FRAZER CALDER LEITH (Birmingham).

Mr. G. PERCIVAL MILLS (Birmingham) read a paper, illustrated by lantern slides, on

The Action of Radium on Healthy Tissues,

in which he stated that to investigate this subject a single application of radium was made to the livers of mice through the anterior abdominal wall, and the animals killed for examination at various subsequent intervals. It was found that the part of the liver immediately beneath the applicator was severely damaged, being in a condition closely akin to coagulation necrosis. Apart from this small area of intense action, however, the rest of the liver showed interesting changes. There were two separate inflammatory reactions, named respectively the early and the late reaction. The *early reaction* affected all the tissues of the liver; it began immediately after irradiation, reached a maximum in about three hours, and could hardly be distinguished after 24 hours. It consisted in cloudy swelling of the liver cells, associated with hyperæmia and infiltration with interstitial cells, both diffusely and in clusters round the veins. This rapidly subsided, and by the end of a week all signs of it had completely disappeared. The *late reaction* affected only the interstitial tissues, the liver cells being unaltered. It began about 14 days from irradiation, and continued with slight variations in intensity up to 113 days, when the last mouse of the series died. It consisted in hyperæmia and cellular infiltration, in which the connective-tissue cells took a prominent part. This infiltration was present in all sections taken after 14 days from the irradiation, and seemed to increase gradually but steadily as time went on. Moreover, in the later sections some increase of fibrous tissue was observed, giving the appearance of an early cirrhosis. In two of these sections, also, giant cells were found. These were very similar in appearance to some observed by Mr. Mills in two cases of epithelioma which had been treated unsuccessfully by radium and then excised. It appeared, then, that a single exposure to radium had set up a progressive inflammation lasting at least four months, and becoming so chronic as to result in a certain degree of fibrosis.

Professor A. S. F. GRÜNBAUM (Leeds) in discussing the paper, regretted that the experiments were carried out on mice, as he thought rodents such as mice and rats were particularly susceptible to the action of X rays and radium rays, and also that mice which died natural deaths in the laboratory often showed changes somewhat resembling those described by Mr. Mills. He would like to know—presuming that the radium was applied through the skin—how Mr. Mills knew which part of the liver it had been applied to, as the position of the liver varied during breathing. He also thought that some of the changes described were compatible with bacterial invasion of a tissue the vitality of which had been lowered by the application of the radium. He had found guinea-pig's skin very resistant to the passage of radium rays and the liver more so, and would like to know why the skin was not affected. He thought that in work of this kind a very large number of controls were necessary, especially when working with mice.

Professor G. SIMS WOODHEAD (Cambridge) was interested in this matter from the general etiological point of view. Here there was evidently something which, in conjunction with other toxins and micro-organisms, might help them in the study of the causes of cirrhosis. He thought that they could not look upon those photographs as of individual specimens. They must be taken as a whole, and if that were done he thought they had some evidence that the primary changes in cirrhosis were those associated with the parenchymatous tissues, changes that were followed by interstitial changes. He thought that Mr. Mills had added to our facilities for the study of cirrhosis. He would like to ask whether the giant cells shown were not lymph spaces or channels in which were embedded cells or nuclei.

Mr. MILLS, in reply to Professor Grünbaum, stated that he recognised the area of application to the liver by the small burn which was always evident at one place on the liver. As regards the giant cells, he certainly thought that they looked like active cells and not nuclei in coagulum.

Dr. LEONARD FINDLAY (Glasgow) then read a paper on

The Origin of Pulmonary Anthracosis: An Experimental Study.

He said that it was generally taught that tuberculosis in childhood is primarily abdominal, though Koch always maintained that it was by the air-passages in the adult and child alike that the tubercle bacillus entered. Calmette holds that it is by the intestine that the tubercle bacillus gains entrance to the body, and that this is the course of events even in pulmonary tuberculosis of the adult, in opposition to the earlier and usually accepted work of Arnold, which showed that it was always by inhalation that pigmentation of the lung was produced. Dr. Findlay reminded the meeting that so much controversy had been aroused by Calmette's work that a committee of the Société de Biologie investigated the matter, and reported that it was unable to verify the passage of pigment to the mesenteric glands after a single feeding of Chinese ink, but that daily feedings extending over a period of nine days or longer resulted in the passage of pigment through the intestinal walls to the mesenteric glands, judgment being reserved on the question of the production of pulmonary anthracosis from the intestinal lymphatics. He then referred to further work on the same subject by various continental and English observers, particularly mentioning Whitla, who emphatically denied the possibility of infection by the air-passages, and who in his Bradshaw lecture described experiments where

ligation of the œsophagus absolutely prevented pigmentation of the lung, and, conversely, where blocking of the bronchus did not prevent pigmentation of the corresponding lung, provided the œsophagus was patent. All these observers supported their contentions by the results of intraperitoneal injection of Chinese ink. Dr. Findlay then detailed his own experiments, which were for the most part carried out on adult rabbits. The pigment was administered by inhalation, by ingestion into the stomach, and by injection into the peritoneal cavity. In the first case lamp-black obtained from a turpentine lamp was passed by means of a suction pump through a closed cage in which the animals were confined, but in some experiments, bearing in mind the fact that a certain degree of pigmentation is normally present in adult animals reared in towns, iron carbonate in the form of a fine powder was sprayed into the cage by means of an insufflator, and its presence in the tissues subsequently tested for by the Prussian-blue reaction. In the feeding experiments lamp-black or iron carbonate was made into an emulsion with water and olive oil, and administered through a stomach tube. Intraperitoneal injections were only performed in a few instances, when Chinese ink was employed. Dr. Findlay summarised his experiments by stating that six adult rabbits and two adult guinea-pigs were allowed to inhale soot-laden air for periods varying from 30 minutes to eight hours, with the result that pulmonary anthracosis was demonstrable, either macroscopically or microscopically in all. Three adult rabbits after ligature of the œsophagus were similarly allowed to inhale soot-laden atmosphere for seven hours, three hours, and half an hour respectively. In every instance an excess of pigment was detected in the lungs. Two rabbits were placed in the inhalation chamber after occlusion of one of the bronchi. Post-mortem examination showed pigmentation of one lung, but no excess of pigment in the lung corresponding to the occluded bronchus. Three animals caused to inhale iron carbonate, both œsophagus and bronchi being patent, showed conclusive evidence of the penetration of the iron salt into the alveoli and to the alveolar walls. Eleven animals fed with either Chinese ink, lamp-black, or iron carbonate failed to show any signs of penetration of either pigment or iron salts to the lung tissue. Five rabbits inoculated intraperitoneally with Chinese ink or soot showed no abnormal amount of pigment in the lung tissues. These experiments led Dr. Findlay to form an opinion directly opposed to that put forward by Calmette and Whitla. In no instance was he successful in producing pulmonary anthracosis by feeding or intraperitoneal inoculation, but in every inhalation experiment, so long as the bronchi remained patent, he successfully accomplished this end. His experiments, in addition to showing the mode of entrance of the pigment, demonstrated the manner of its spread. In animals killed immediately after a single short inhalation the pigment was found chiefly in the alveoli and bronchioles. Animals repeatedly used for inhalation experiments showed proportionately more pigment in the alveoli, also pigment in the pulmonary tissue and in the bronchial glands. In two cases where the animals had been kept alive for long periods after the inhalation the bulk of the pigment was aggregated in masses around large vessels, having travelled along lymph tracks, and accumulated in the adenoid tissues. Dr. Findlay then pointed out that Shingu has shown that dust is present in every child's lung in Berlin after the age of 2½ months, and that the amount is directly proportionate to the age of the child; while Cobbett and Beitzke have pointed out that the same holds good with regard to all adult animals which have lived in a town for any length of time, and suggest that possibly some of the previous workers have erroneously regarded this degree of natural anthracosis as abnormal anthracosis experimentally produced. And in conclusion Dr. Findlay suggested that the results of his experiments lend no support to the view that the tubercle bacilli invading the lung have obtained entrance by way of the intestine.

Dr. R. SAUNDBY, President of the Association, stated that pulmonary anthracosis was rare in the Birmingham district and so he was very interested in Dr. Findlay's experiments. He would like further information on the subject.

Professor SIMS WOODHEAD was extremely interested in the subject raised by Dr. Findlay, as he himself had studied this matter carefully some time ago, and had seen a number of the experiments carried out by Dr. L Cobbett. As regards pigment, there was, he believed, no doubt as to the channel by which it reached the lung. It was not perhaps sufficient to argue that because pigment got through in a certain direction the bacilli should pass in the same direction. Briscoe's experiments on the hyaline cells of the alveoli were very important in connexion with what Dr. Findlay had said, as were also those of Dr. W. Hunter, who demonstrated the ready passage of such large bodies as the red blood corpuscles from the peritoneal cavity to the lymph spaces in the lungs. This was quite a different matter from passage from the alimentary canal.

Dr. WILLIAM H. WYNN (Birmingham) asked Dr. Findlay whether he found in his experiments that the apices of the lungs were chiefly affected.

Dr. FINDLAY replied, and gave a short description of the technique employed in his experiments. He could not satisfy Dr. Saundby's request, but knew there was a lot of anthracosis around Glasgow. As regarded Dr. Wynn's question, he always found the lung uniformly coloured with the soot.

The PRESIDENT congratulated Dr. Findlay on the way in which he had brought his interesting experimental results before the section, and particularly on the beautiful slides by which he had illustrated them. His experiments lent strong support to the inhalation theory of the origin of pulmonary anthracosis, an origin which had been generally accepted and had remained unquestioned till 1905, when Vansternberghe and Grusez published the results of their experiments performed in Calmette's laboratory, from which they concluded that the previously prevailing opinion was wrong, and that pulmonary anthracosis arose through ingestion and not by inhalation. Discussion on the paths of entrance of the tubercle bacillus, to which such experiments bear a close relationship, attracted much attention. Fresh results by other workers along the same lines and by the same kind of experiments appeared in 1907 and 1908, which in the main supported the inhalation method and opposed the conclusions of Calmette and his pupils. The most noticeable exception in this country was provided by Whitla and Symmers, who, writing in the *British Medical Journal* in July, 1908, upheld the findings of the Calmette school. But Cobbett, from a study of the portals of entry of the tubercle bacillus, opposed them strongly in papers published in the *British Medical Journal* in 1909 and in the *Journal of Pathology and Bacteriology* last year. He (the President) hoped that Dr. Findlay's experiments, which seemed to have been carefully carried out, would give the *coup de grâce* to the ingestion hypothesis. They did a good deal to re-establish the inhalation method of origin upon its old firm foundation. Shingu had found dust in the lungs of every child older than two and a half months which he had examined, and was led to believe that the amount of the pigment present in any lung was directly proportional to the age of individuals living under similar circumstances Bacteriologists find some degree of pigmentation in the lungs of all the animals which have lived for some time in the laboratory. It thus becomes probable, as Cobbett and Findlay both contend, that the supporters of the ingestion theory have been misled by the pigment existent within the lungs of their experimental animals before the date of their pigmentation experiments. Dr. Findlay, though denying an alimentary path of entrance to inert pigment particles, did not deny it to the tubercle bacillus. He held only that his experiments lent no support to such a path of entrance, rightly arguing, however, that the tubercle bacillus as a living organism might behave in a somewhat different fashion from the lifeless pigment particles with which he had experimented.

Professor GRÜNBAUM discussed what he called

Post-operative Drowning,

and drew the attention of surgeons to the ill-effects of indiscriminate saline transfusion.

Professor SIMS WOODHEAD wished to ask Professor Grünbaum whether he was dealing with washing out, say, the peritoneal cavity, or passing isotonic saline into the veins. The subject was one of extreme interest and importance, especially in relation to the question as to whether the expert should superintend the perfusion himself or should allow his assistant to do the work without his direct superintendence. It had to be borne in mind that in animals the tissues and organs were healthy, and that they would be able to withstand much more than would tissues and organs, usually damaged, of patients.

Dr. MONTAGU PHILLIPS (Liverpool) and Dr. ERNEST E. GLYNN (Liverpool) then read a paper on

The Comparative Value of Microscopical Methods of Demonstrating Spirochæta Pallida,

and drew their conclusions from some 50 cases of primary and secondary syphilis, and also from numerous gland punctures. The material was obtained by first cleaning the sore with absorbent wool, rubbing it with wool, and then swabbing with wool soaked in methylated spirit. At the end of four minutes the spirit was wiped off, and the clear serum which exuded was collected in a capillary tube. They never used scrapings. Their methods of examination were:—1. Dark ground illumination. 2. Staining by Giemsa. Films stained overnight in 1 part Giemsa's reagent to 8 parts of water, the long method being found more satisfactory than the more rapid process. 3. Indian ink method of Burri. Their conclusions were:—

1. Microscopical examination is a great aid in the diagnosis of primary syphilis, but it is not infallible.
2. Failure to find spirochætæ is more frequent when the sore cannot be reached owing to phimosis.
3. Spirochætæ are more constantly present in condylomata and mucous patches, and far less constantly present in papular secondary skin eruptions than in primary sores.
4. Gland puncture is not of much diagnostic value; typical enlarged indurated syphilitic glands gave negative results in more than half of the cases in which spirochætæ were easily demonstrated in the primary sore.
5. Dark ground illumination is undoubtedly the best method of examination; it is the simplest and least open to pitfalls; it is the quickest not only in the preparation of the film, but also in the detection of spirochætæ after the actual microscopical examination has begun. It is the most reliable, frequently giving positive results when other methods are negative, and the different varieties of spirochætæ can be more easily distinguished.
6. The Indian ink method, properly performed, appears to be more reliable than Giemsa's, though enough observations have not been made to ascertain if this is always so.
7. The collection of serum from the syphilitic lesions by the application of spirit is free from certain objections which occur in other methods.

Dr. W. D'ESTE EMERY (London), in discussing Dr. Phillips's and Dr. Glynn's paper, agreed with them in their conclusions as regards the superiority of the dark ground illumination method. He thought that the reason they found more spirochætæ with this method than by Giemsa was that all the spirochætæ do not always stain. He preferred Leishman's method to Giemsa's stain.

Dr. J. M. BERNSTEIN (London) drew attention to the importance of the early recognition of the spirochæta pallida, in view of the fact that better results were obtained by modern methods of treatment when applied at the earliest possible occasion.

Dr. J. DALE (Birmingham) gave testimony to the value of Burri's method and dark ground illumination when working with spirillosis of the hen and in rabbit syphilis. In syphilis of the testicle in rabbits he found spirochæta pallida in 100 per cent. of cases in which there were signs. He considered the dark ground illumination method infallible, and reminded the meeting that spirochætæ were not always present in primary sores all the time, and that when they were not found by this method they were probably not present.

Dr. GLYNN replied, and agreed with Dr. Emery that many of the spirochætæ pallidæ in a field were not stained by Giemsa's method; and further, that they were often not to be found in sores that had been dusted with mercurial powders.

Dr. GLYNN then read a paper on

A Case of Cirrhosis, Adenoma, and Carcinoma of the Liver,

in which paper were also described two other cases of alcoholic multilobular cirrhosis of the liver terminating in cancer. In the title case the distribution of the cirrhosis and carcinoma was unusual, for the left lobe was enormously hypertrophied, the cirrhosis slight, and the adenomata few; whereas the right lobe showed marked multilobular cirrhosis, adenomata were frequent, and in two portions diffuse cancer was present. Microscopically there were various grades between hyperplasia, adenomata composed of tubules and trabeculæ, and carcinoma of the spheroidal-celled type. The veins were filled with growth and numerous hæmorrhagic and anæmic infarctions had occurred.

Dr. P. B. RIDGE (London) read a paper on

A Case of Chorion Epithelioma,

in which he stated that the case was of interest owing to the fact that it had been impossible to discover any primary lesion, although many sections had been cut from various parts. He showed the uterus and appendages in a jar, and drew the attention of the meeting to the large thrombi in some of the uterine vessels. Sections of these thrombi had been cut without finding anything. He then described another very similar case he had met with, and mentioned that the correct diagnosis was not arrived at for some time, as the patient was thought to be suffering from infective endocarditis. Both these cases occurred in women who had been pregnant.

Dr. EMERY said he was very interested in Dr. Ridge's paper, as he had had a case in which the diagnosis of infective endocarditis had been made. Numerous blood cultures were taken without growing any organism; B. coli were found in the urine, but an autogenous vaccine had no beneficial effect on the patient's health; and finally chorion epithelioma was diagnosed. He thought it was very necessary to cut serial sections of all material before giving a diagnosis.

Dr. BERNSTEIN wished to know whether sections of the thrombi were cut in Dr. Ridge's case. He reminded the meeting that chorion epithelioma was not necessarily associated with pregnancy or even with the female sex, and there were quite a number of cases in the literature of deciduoma malignum in man. He considered that the difficulty of a microscopical diagnosis in chorion epithelioma was due to the fact that these growths frequently destroy themselves by bleeding into themselves. He contended that the terms chorion epithelioma and deciduoma malignum were misleading.

The PRESIDENT, in closing the work of the section, congratulated all the speakers on the excellency of their papers, and he particularly wished to thank Dr. Emery and Dr. Rolleston for their papers. He thanked the officers, especially Dr. Wynn, for the splendid way in which they had done their work.

Professor SIMS WOODHEAD proposed, and Dr. GRÜNBAUM seconded, a hearty vote of thanks to the President, which was accorded with acclamation.

The PRESIDENT thanked the section and adjourned the meeting till next year.

STATE MEDICINE AND INDUSTRIAL DISEASES.

FRIDAY, JULY 28TH.

President, Professor ALFRED BOSTOCK HILL (Birmingham).

Dr. R. J. COLLIE (London) read a paper entitled

A Few Observations upon 17,000 Consecutive Medical Examinations, Conducted Chiefly for the Public Service.

He said that it was obvious that the standard of pass for thet different branches of a public service must vary with the nature of the proposed occupation of the employee. Perfect vision, for instance, was necessary in the case of all firemen, as well as very full development of the muscular system, whereas for clerical work a large number who had visual defects which were remediable by the use of lenses were passed, provided they procured suitable glasses. In the case of electric car drivers the eyes were specially tested for visual acuity, the standard being perfect vision. They were subjected to a lantern test, as well as Holmgren's test for colour blindness, and were also examined for tobacco amblyopia. In testing the eyes for visual acuity with the ordinary spectacles supplied for this purpose by opticians, it was astonishing how small a deflection of the head to one side enabled the candidate to use his second eye, which was apparently covered. Many years ago he had large pieces of aluminium attached to the ordinary circular discs, and he was satisfied that those eliminated the possibility of error. It was apparent that a preliminary medical examination must, in view of the Workmen's Compensation Act, from a commercial point of view, be distinctly to the advantage of the employer of labour. The percentage of rejections was over 10. A somewhat stringent examination was insisted on for banks and large mercantile firms, and judicious and far-seeing employers were gradually realising the necessity of such examinations even in much smaller commercial undertakings. In regard to examinations of employees for sickness and accidents, employees who had been on the sick list for 28 days from any cause were sent to him in his official capacity for examination and report. That was found to be a considerable check upon the temptation to malinger or to unduly prolong illness after accidents or sickness. For instance, a man who had been drawing sick pay for nearly two years, a

the date of the passing of this 28-day rule, explained that he was weak and had a pain in his back, that the weather affected it, and that he was unable to work. Dr. Collie satisfied himself that the man had no physical disability, and pointed out to him that as he had not given notice of his injury a year ago he could not claim under the Employers' Liability Act; that the alleged accident happened prior to the passing of the Workmen's Compensation Act of 1906; that he (Dr. Collie) believed he was never really ill, and that he was to return to duty forthwith, otherwise he would report him unfit for duty, in which case he would be dismissed without compensation. The man returned to work, and had never complained since of his back or of any other portion of his anatomy. The 28-day rule, though by no means equal to systematic re-examination at set intervals, certainly enabled him to keep an eye to some extent generally upon the health of the staff. For instance, a tramway driver a little time ago was discovered to be suffering from aortic regurgitation, and a school attendance officer from locomotor ataxia, when they presented themselves on the expiration of 28 days' sick leave on account of a slight injury in the first case and a sprained ankle in the second. That the adoption of that method of medical inspection had been eminently satisfactory was proved by the statistics of one department alone, where some 1400 men were employed. All were medically examined before entering the service and all were entitled to medical attendance by district medical officers paid by capitation grant. It was found that prior to the institution of the independent medical inspection after 28 days the total number of days men were on the sick list amounted in one year to 14,400, whereas subsequent to the institution of the new rule that number was reduced to 9600—a reduction in a well-organised and disciplined small force of no less than 4800 days in one year, the percentage of reduction being 33⅓. During the corresponding periods the total number of men sick for more than 28 days was reduced by the somewhat surprising figure of 50 per cent. It was the duty of medical men to help the State to count amongst her citizens the maximum number of elements capable of working. In a large number of cases which eventually came before the courts introspection and subjective sensations were unwittingly fostered, and a traumatic neurosis was brought into being which was of psychogenic origin and did not rest upon the physical injury itself, but upon the idea of the injury, which in its turn was dependent upon the personal equation and the personality of those who were associated with the claimant in the lawsuit. Experience taught that closely similar injuries attributable to like accidents present one kind of clinical picture and run one kind of course amongst those who make no claim for compensation; but they presented a very different picture and ran a very different course amongst those who embarked upon the troubled sea of litigation. That difference was highly significant of the influence of litigation in magnifying pain and perpetuating incapacity.

Dr. A. H. BYGOTT (Barking) said that at present in the case of Friendly Societies when a second opinion was required one was often sought from a rival practitioner with very unsatisfactory results; in cases possessing a nervous basis the question of hypochondriasis was a very important one, and it was very difficult to know what to do with them.

Mr. E. H. HELBY (Birmingham) suggested as a means of dealing with cases of prolonged malingering that it should be made legal for the employer to demand, and the Court to order, that the workman should be treated at the employer's expense in certain scheduled institutions.

Dr. J. G. MCBRIDE (York) said that as medical inspector of the North-Eastern Railway Company he did not find much malingering among the regular staff, but chiefly among the casuals, such as dock hands, of whom numbers were employed.

Mr. W. F. DEARDEN (Manchester) said that malingering was more prevalent in case of accident than disease; there were several reasons for that. There were more industrial accidents than disease, and workpeople were not yet quite so conversant with obscure symptoms of industrial poisoning and disease as they were with the effects of accident, but he ascribed the main reason to the barrier raised by the particular function of the certifying surgeon.

Dr. W. SALISBURY-SHARPE (London) said that one of the difficulties causing loose and vague certification by club doctors was the demand of the societies for an instant certificate on the first interview when disease was often in an undeveloped form and an accurate diagnosis impossible.

Dr. COLLIE, in replying, said that it was his practice to induce doubtful functional nerve cases to enter a hospital, and he never had any difficulty in inducing employers to pay the actual out-of-pocket expenses of the hospital.

The work of the section was concluded with a paper on Industrial Diseases in Birmingham communicated by Dr. R. W. EDGINTON.

THERAPEUTICS AND DIETETICS.

FRIDAY, JULY 28TH.

President, Sir ROBERT M. SIMON (Birmingham).

A discussion was held on

The Scope of Immune and Normal Serum in Treatment.

Dr. T. J. HORDER (London) reviewed various diseases in connexion with the use of vaccines and antitoxins, expressing the general conclusion that antisera were more appropriate in the early or acute and vaccines in the later or more chronic stages. The difficulty of the subject was due largely to the need of correlation between the results of laboratory experiments and clinical observations. There was considerable scope for extension in the use of normal serum both as a curative agent and as a "control" against the use of "specific" sera. The properties of normal serum were described, both of animal and human origin, together with its use in the treatment of certain infective conditions. Dr. Horder then passed on to define the scope of immune serum, both antitoxic and bactericidal. He adverted to the neglect of serum administration which had followed the introduction of vaccine-therapy, which, he said, was unjustifiable. He emphasised the value of immune sera at the outset of acute infections, adding that high grades of immunity were essential to success. Commenting on the employment of univalent and polyvalent sera, he drew attention to the reversion in favour of univalent antistreptococcus serum in S. pyogenes infections, concluding with a recital of results.

Dr. E. C. HORT (London) referred to the various "hyperæmia" methods of treatment (congestion, poultices, &c.) as equivalent to normal serum-therapy, iodine applications representing in addition the effects of antiseptic lymph in circulation. Foreign sera locally applied exercised a restraining influence on inflammatory changes, relieving pain in ulcer of the stomach or duodenum. Exposed ulcers, as on the leg, healed in two or three weeks after remaining open for 15 to 20 years. Suppuration was arrested and healthy granulation induced. Remarkable healing effects followed the use of this agent in chronic sinuses and wounds other than those connected with bone. Mr. Warren Low used serum with great benefit to wash out mastoid sinuses. It was a valuable agent in promoting the healing of bedsores and especially of sinuses connected with the digestive organs, such as biliary and gastric fistulæ. This exhibited the antilytic power of serum. Its anti-hæmorrhagic power was seen when injected in hæmophilia and purpura or internal hæmorrhage from any cause, since it hastened the coagulation period and counteracted the influence of toxins. Oral administration was satisfactory, normal horse or sheep serum being employed which was sterile and atoxic. Serum also possessed a very pronounced antitoxic power.

Dr. E. W. GOODALL (Homerton) said there were very acute cases of purpura, mostly after scarlet fever, fatal in from 36 to 48 hours in which an appropriate serum would be welcomed. In bad cases of angina (cellulitis of neck) he had employed antistreptococcus serum daily in doses of 30–40 c.c., preferably by subcutaneous injection, but not with uniform results. He cited one case of acute erysipelas, however, where this agent had a really remarkable effect.

Dr. E. HOBHOUSE (Brighton) cited an instance of apparently marked improvement in septicæmia, but the patient succumbed a few days later to purpura. He had also seen an unusually severe and acute erysipelas quickly recover after the use of a polyvalent antistreptococcus serum.

Dr. J. HADDON (Hawick), Dr. GEORGE W. ROSS (Toronto), Dr. T. D. MANNING (Weymouth), Dr. H. W. GARDNER (Shrewsbury), Dr. A. T. COLEMAN (Leicester), and Dr. OTTO F. F. GRÜNBAUM (London) also spoke.

Dr. D. J. A. CHOWRY-MUTHU (Wells) read a paper on

Continuous Antiseptic Inhalation in the Treatment of Pulmonary Tuberculosis.

Opening with some considerations as to the causes and conditions of pulmonary consumption, he went on to trace the development of modern treatment through simple exposure in the open air and graduated exercise till he arrived at the supplementary method of antiseptic inhalation, to which he attributed the chief beneficial effects and most rapid stages of improvement. The method is claimed to have a very ancient origin, volatile aromatic substances having been employed before the days of Hippocrates in Greece or of Susruta in India, being recorded by Charaka earlier than the Bhuddist era, 500 B.C. Galen praised the efficacy of sulphur and advised residence near Vesuvius, whilst Laennec mentions the use of vapours from aromatic plants, balsams, &c., in affections of the chest. The discovery of micro-organisms as the exciting cause of disease gave a fresh impetus to the inhalation treatment, and many new forms of apparatus and materials for inhalation came into vogue. Though opinions have varied as to the efficacy of the method, it has received new impulses by the work of many well-known physicians in recent times, and has been steadily prosecuted in the Mendip Hills Sanatorium. During the past 13 years formaldehyde had been the basis of the inhalant, successful cases being reported at the Tuberculosis Congress of London in 1903. Since that time the method and ingredients had been elaborated, two principal modes being employed: 1. The open method, formaldehyde being vapourised over a lamp in a closed chamber for an hour or less. 2. The continuous method, carried out by the aid of a mask fitting closely and conveniently over the respiratory orifices. The combinations employed were:—

A. Formalin, 2½ per cent.; chloroform, ℥i.; menthol, gr. x.; ol pini pumiline, ♏x.; sp. vin. rect. ad ℥i.

B. Formalin, 5 per cent.; guaiacol, 12½ per cent.; chloroform, ℥i.; menthol, gr. xv.; ol pini pumiline, ♏xv.; sp. vin. rect. ad ℥i.

C. Guaiacol, ℥ii.; chloroform, ℥i.; menthol, ♏xv.; ol pini pumiline, ♏xv.; terebene, ℥i.; sp. vin. rect. ad ℥i.

About ten drops sprinkled on the cotton-wool in the mask at half an hour or an hour's interval. The inhalation is commenced for a period of two hours, which is gradually extended to four, six, eight, and even nine hours daily, being reduced again as improvement occurs. This is in early uncomplicated cases. Should the patient's condition require confinement to bed, the inhalation is continued all day and as far into the night as possible, being suspended by degrees as improvement occurs. Treatment commences with A solution, then B, C being employed chiefly at night. Three hundred patients have been so treated with excellent results. Where dyspnœa or hæmoptysis occurred the treatment was suspended for a time. 52 per cent. made a complete recovery and resumed work. All stages of the disease were so treated. Dr. Chowry-Muthu adduced a number of reasons for attributing the main improvement to inhalation, and cited some specially satisfactory cases and incidents.

TROPICAL MEDICINE.

FRIDAY, JULY 28TH.

President, Sir FRANCIS LOVELL, K.C.M.G. (London).

The first item on the programme for the day was a communication by Dr. ANDREW BALFOUR (Khartoum) on

The Rôle of the Infective Granule in Certain Protozoal Diseases,

which he said was intended to be more of the nature of a demonstration of microscopical specimens than a paper. Dr. Balfour's view is that in certain protozoal infections, and more especially in spirochætosis and trypanosomiasis, what may be termed the "infective granule" plays an important rôle. It constitutes a stage in the life-cycle of the parasites, a stage hitherto in a large measure overlooked or unrecognised; it explains to some extent latent infections, and possibly clears up the somewhat obscure mechanism of relapses. Furthermore, the recognition of such a granule or spore may well modify our views in respect to prophylaxis and treatment, and may also lead to new discoveries as regards the histopathology of some of these protozoal diseases. These remarks, Dr. Balfour said, apply alike to humannd a animal infections. His own work had been confined to fowl spirochætosis and to syphilis, but Captain W. B. Fry, R.A.M.C., of the Khartoum Laboratory staff, had made important observations on trypanosomiasis, and indeed witnessed what Dr. Balfour terms "granule shedding" in the case of trypanosomes before he (Dr. Balfour) had seen it occurring in spirochætosis. He laid no claim to being the first to realise the possible importance of such granule infections. After referring to the historical aspect of the subject, he went on to explain that his discoveries did not consist in the recognition of the infective granule, but in finding out that it is shed by the living parasite both naturally and when the parasite is under the influence of some toxic drug, such as salvarsan, which intensifies the phenomena, and which led Dr. Balfour to observe it in the case of the fowl spirochæte. Some description was then given of the various microscopical specimens he had to show to the Section relating to: 1. Fowl spirochætosis; spirochætæ in the fowl or chick. The phenomenon of these spirochætæ shedding granules is greatly intensified by salvarsan; they are resistant and not easily killed by that drug. Some appear to enter the red cells. These granule inclusions undergo development and pass through a state of schizogony, and finally the schizonte breaks up into tiny merozoites which are discharged into the blood stream. Their further history remains unknown. 2. Syphilis; treponema pallidum, a granule shedder. Salvarsan greatly stimulates this action. It is probable that these granules cause tissue irritation, are responsible for latent infections, for failures in therapeusis, and for the tertiary lesions of syphilis. 3. Trypanosomiasis. Captain Fry has shown that T. brucei and T. evansi shed living granules; they become plasmodial masses, out of which eventually trypanosomes are developed. Dr. Balfour concluded by saying that his observations appeared to justify Dobell's views that the spirochætæ are best placed in a group by themselves, *the spirochætoidea*. Closely allied, however, are the trypanosomes, and whether we call them protozoa or not, he believes that granule shedding will be found to be a phenomenon presented by many of the pathogenic, and possibly by some of the non-pathogenic, protista, to use a non-committal term and yet sufficiently descriptive.

Professor W. J. R. SIMPSON (London) then opened a discussion on

The Sanitation of Villages and Small Towns in the Tropics, with Special Reference to Efficacy and Cheapness.

He said there was no surer way of getting a scheme for improving the sanitary condition of a place rejected than the submission of costly estimates. These estimates were not prepared by the sanitary officers, but it was very advisable that the latter, to protect themselves, should possess a fair knowledge of the cost of sanitary appliances and the price of labour. No elaborate schemes were needed for villages and small towns. As a rule, their sanitation was simple and inexpensive if properly carried out. There were no hard-and-fast methods, cheap and efficient, applicable to all villages or towns alike. In some localities biting and non-biting flies, bugs, fleas, or mosquitoes have to be contended against, while in other places there were none, or but few. Efficacy and cheapness depend primarily on the sanitary policy adopted; secondly, on a thorough grasp of sanitary matters in their general, microbial, and entomological bearings, and a due perception of their respective values; and thirdly, on their systematic and regular application to local circumstances. It was a common policy to let things drift and to postpone action until disease broke out; this gave neither efficiency nor cheapness. Fortunately, there had been signs of late that this old procrastinating policy was passing away and a more active one was being adopted; this was due perhaps partly to the teachings of the schools of tropical medicine, and partly to the influence of the Colonial Office which was now more concerned than formerly about public health matters in the colonies. Sanitation seldom keeps pace with our knowledge which has been acquired by experience and research. The field of preventive medicine was rich in its triumphs and discoveries, but the value of these was lost if the knowledge was not applied, or only applied indifferently, for the improvement of the public health. One of the most obvious things in the tropics to the observer was the repetition of the same insanitary conditions in many different localities. A removal policy, after insanitary conditions had arisen, had been largely adopted

as the sanitary policy of the day, and had been responsible for much inefficiency and ultimately for great expenditure. This was especially true with regard to new trading centres which, begun on the old insanitary lines, grew rapidly into unhealthy areas. In some places excellent regulations existed, but they were seldom put into force. The usual practice was to allow conditions inimical to health to arise, and then, under the stimulus of an epidemic or a rising death-rate, to remove those conditions in haste, no matter what the cost might be. A sanitary policy may, for want of adequate knowledge, be wrongly directed and fail, causing in the end unnecessary expense to rectify it, leading to reaction and hindering sanitary progress. An active policy needs adequate guidance and advice, without which there is risk of failure. The obnoxious system of asking for sanitary advice after the works have been completed, instead of before they were begun, is not only responsible for most of the mistakes, but also for most of the unnecessary costliness of sanitary measures. This seeking of advice at the wrong time may possibly arise from the fact that the medical man in a case of sickness is called in after the patient is ill, and it is not realised that his functions in preventive medicine are of a different kind, and that his advice is required at a different time. He is sometimes called in by the executive after the completion of a scheme which his conscience compels him to condemn, and consequently he incurs the displeasure of those in power; any alterations he may suggest are almost certain to turn out costly. He is thus placed by a wrong system in an antagonistic position as regards the other executive officers, and this in turn leads to a hesitancy on their part to consult him in the future. It is very advisable that his relations with these officers should be of the most cordial description, and that his advice should be appreciated by them. One sanitary officer had summed up the situation by saying "it is not fault finding but fault prevention that should be aimed at." The preventive policy should apply to European and native quarters alike. There is some risk that most attention may be paid to the isolated European quarters, and that those of the native may be neglected. "It is unnecessary here," said Professor Simpson, "to enter into the various details of an active preventive policy. It is essential, however, to recognise that the general, microbial, and entomological aspects of sanitation should fit into one another, each being interdependent on the other. In the application of sanitary measures continuity of effort is necessary, both for efficiency and cheapness; but this continuity will not be obtained locally, nor will the regulations be enforced when the medical and other officers are changing unless the conditions are periodically inspected by a higher sanitary authority which has an influential position in the councils of the Government."

Dr. W. T. PROUT, C.M.G. (Liverpool), said that those who were familiar with sanitary matters in the tropics knew the difficulty of getting estimates beforehand for the proposed works. It was a good policy to try to remain always on good terms with the executive officers, and to endeavour to induce them to regard sanitary questions from the proper points of view. The mass of ignorance and prejudice among the native races was well known to all those who had served in the tropics. We must look to the education of the younger generation in sanitary knowledge to remove these obstacles to progress by teaching the natives the simple principles of hygiene. There was a danger in allowing the executive officers in the colonies to have too much control over sanitary measures. There should always be a large preponderating medical and sanitary influence.

Dr. A. J. CHALMERS (Colombo) thought that the question before the Section was far too large to be discussed at one sitting. He agreed that it was necessary, if progress were to be made, to educate the native. This was being done in Ceylon, for the native teachers were brought in turn each year to Colombo for a three weeks' course of instruction in hygiene by simple kindergarten methods. When they return to their schools they teach the children by the same kindergarten methods the elements of sanitation. Examinations, oral and practical, are held annually, and if sufficient knowledge of the subject is shown the school obtains an extra grant from the Government. He thought it was also necessary to interest the native doctors, the irregular practitioners of the tropics, in sanitation. He urged the association of the religious portion of the community with public health matters. It was essential that sanitary officers should at all times be on good terms with the Public Works Department. It was his opinion that one of the greatest troubles in the East was the spread of tubercle, due in part to overcrowding in insanitary dwellings. Sanitary measures, if enforced, might be expected to reduce the ravages of this disease.

Dr. BALFOUR (Khartoum) alluded to the want of British-trained sanitary inspectors in our colonies and dependencies. These officers should form the backbone of the sanitary service. Everything depended on such men being honest, tactful, independent, fearless, and trustworthy. They should correspond to the non-commissioned officers in the British army. If British certificated sanitary inspectors were sent out to the colonies an additional course of training beforehand in anti-mosquito measures and other special work needed in the tropics would be necessary.

Dr. M. CAMERON BLAIR (North Nigeria) spoke of the difficulties of effecting improvement in sanitary conditions in a Mahomedan community. They should utilise, as far as possible, the religions of the natives in advancing the standard of public health among them. The Khoran, unfortunately, gave no help whatever in this direction. He thought it was impossible, for financial reasons, to obtain trained British sanitary inspectors in the tropics. They must be content to do the best they could with native inspectors, some of whom were quick to acquire the necessary knowledge.

The discussion was continued by Lieutenant-Colonel A. H. NOTT, I.M.S. (Calcutta), Dr. DAVID GALLOWAY (Singapore), Dr. R. H. KENNAN (Dublin), and Major R. W. H. JACKSON, R.A.M.C. (Plymouth). After which Professor SIMPSON replied. He said he had purposely in his address avoided details of sanitary work, but had made his remarks as general as possible, so as to be adapted to all parts of the world. Many of the hindrances and difficulties to sanitary progress might be overcome by common-sense and tact. After Professor Simpson had replied, Dr. CHALMERS suggested that the Council of the Association should be asked to approach the Colonial Office requesting it to instruct its officers to investigate the sanitary condition of each colony, and to present a scheme for the improvement of existing insanitary conditions. After a brief discussion, in which Dr. CAMERON BLAIR, Dr. PROUT, and the PRESIDENT took part, Dr. CHALMERS withdrew his proposal, and the matter was postponed till the next meeting of the Section. When this had been agreed upon, Mr. JAMES CANTLIE (London) proposed that the Schools of Tropical Medicine should be asked to include in their course of teaching the instruction of certificated sanitary inspectors in work which would fit them to act in tropical countries. This proposal was seconded by Dr. PROUT, and among those who spoke upon the subject were Dr. K. S. WISE (British Guiana) and Dr. BALFOUR, the latter emphasising the great need for such trained inspectors in the colonies; though they might cost money, he said, their work would lead to a saving in the end, not only of money, but of life and of health. Finally this proposal, like the previous one, was postponed for consideration till the next meeting of the Section.

Dr. H. P. COLE (Alabama), of the United States Public Health and Marine Hospital Service, read a paper on

Transfusion in Pellagra.

Pellagra, he said, was a subtropical malady associated sometimes with acute or chronic disease. He then sketched out its geographical distribution in the United States, and briefly referred to the various forms in which the disease was met with. Some cases ran a rapidly fatal course. In these it had been thought that transfusion might be of service. Some of the cases brought to him for hospital treatment were quite beyond help, and in some instances the patient had died on his way to the hospital. The treatment by transfusion was only tried in severe cases, many of which from the nature of their attack were expected to die. He admitted that the method of treatment was as yet only in the experimental stage, but the results, so far, were very encouraging. Of 30 severe cases in which transfusion had been employed only 13 died, some of the latter being in a hopeless state when the treatment was undertaken. Excluding these cases, an astonishing improvement was noticed in the patients, a few days after the transfusion, in their mental condition and a

gradual increase in body-weight, one case indeed gaining 30 lb. in 11 weeks. Recovery was established in a period varying from one to four months. The results of the treatment compared very favourably with those obtained by other means, and should therefore receive a further extended trial.

After a few observations by Dr. F. M. SANDWITH (London) Dr. L. W. SAMBON (London) gave a *résumé* of his work on the etiology of pellagra, and the facts on which he based his theory that it was an insect-borne disease.

Mr. JAMES CANTLIE (London) took the opportunity of informing the Section that Dr. Sambon would shortly resume his inquiry into the etiology of pellagra in Italy, and Austria, and other parts of the European Continent, funds for the purpose having been generously provided, it was understood, by Mr. H. Wellcome.

Dr. W. YORKE, Director of the Runcorn Research Laboratory, read a paper on

The Mechanism of the Production of Suppression of Urine in Blackwater Fever.

Suppression of urine being a by no means infrequent sequel of blackwater fever, and the symptom being an extremely grave one, the mechanism of its production was a problem of considerable practical importance. Whether, on the one hand, the occurrence of hæmoglobin free in the blood plasma, and its subsequent elimination by the kidneys, are sufficient to produce suppression of urine through mechanical blocking of the renal tubules; or, on the other hand, whether a nephritis or nervous inhibition of glomerular secretion is to be regarded as the essential factor in the development of this condition in blackwater fever was a question which had not been definitely settled. With the object, therefore, of throwing further light on the subject Dr. Yorke undertook his investigations. For this purpose he carried out a number of experiments and observations on rabbits, the results of which may be summed up as follows. In certain circumstances the mere passage of hæmoglobin through the kidneys of a healthy animal is sufficient to cause suppression of urine owing to occlusion of the lumen of the renal tubules by plugs of granular material derived from the hæmoglobin. The process is considerably facilitated by any factor which tends to lower the blood pressure of the animal, and as a result the secretion of water by the Malpighian capsules. On the contrary, when the blood volume is sustained by the injection of saline solution and by feeding the animal on moist food a large amount of hæmoglobin (41 grammes) may be injected without any tendency to suppression of urine. It appears that Dr. Yorke's observations have an important bearing upon the treatment of suppression of urine in blackwater fever in man. He points out that on the earliest sign of any diminution in the volume of urine voided radical measures must be adopted. The patient should be given large quantities of fluid by the mouth if possible or by the rectum, and cardiac stimulants, such as digitalis and caffeine, administered. Should these not produce a copious flow of urine recourse ought at once to be had to large intravenous injections of normal saline solution. Dr. Yorke's experiments indicate that it is useless delaying the adoption of these measures until suppression has actually commenced. At this stage it is improbable that any procedure will be adequate to displace the casts. This is in agreement with clinical observation that late intravenous saline injections usually fail to relieve suppression. When suppression has once developed and continued, even for a short period, the injury done to the kidneys is such that the result must of necessity be almost invariably fatal. Dr. Yorke, during the reading of his paper, showed a number of lantern slides illustrating his microscopical preparations.

This paper, having concluded the business of the Section, Dr. PROUT proposed a vote of thanks to the President, and after Sir FRANCIS LOVELL had replied the meeting terminated.

THE PATHOLOGICAL MUSEUM.

THIS was no mere collection of isolated examples of morbid anatomy, for a real attempt had been made to represent the morbid changes illustrative of a few definite diseased states, and the attempt had materialised into *un fait accompli*. It is true that to a few the value of a museum specimen lies in the specimen itself as a piece of dead abnormal tissue, just as a rare stamp may be of interest to a philatelist, but to most practical workers it only becomes of value in association with the clinical history and other data. To these latter museum specimens are made to live again and teach important lessons, and to this group belong the organisers of the Birmingham Museum. It would be impossible to do justice to the entire collection, but we may discuss a few of the groups perhaps with advantage.

In the Section of Medicine there was a comprehensive series illustrating affections of the pancreas, for the most part the result of the work of the Leeds school. A specimen from a diabetic man, aged 46, was atrophied and fibrosed, and the ducts had been opened to expose numerous white calculi. Acute hæmorrhagic pancreatitis and fat-necrosis here became realities in the presence of so well preserved and lifelike specimens. One specimen of fat-necrosis was said to have been consequent on obstruction of Wirsung's duct by bile mud, in a case of suppurative cholecystitis and gall-stones, and several pieces of omentum were shown with typical fat-necrosis.

A satisfactory attempt had been made to illustrate visceral syphilis, and amongst this collection were two fine examples of the rarely seen condition—syphilis of the lung. These showed ulceration of the air passages and marked perivascular and peribronchial fibrosis of the pulmonary tissue and pleura, with occasional miliary gummata; the man died suddenly from hæmoptysis, and the nature of the disease might easily be overlooked in similar conditions. There was also an example of a fibrous stricture of the œsophagus, suggestively syphilitic, and numerous ulcerations of the intestines, not to forget a syphilitic stricture of the rectum in a man, aged 45, showing extreme fibrosis and thickening of the coat for some 3 inches. The man had died from rupture of the distended colon, and the only other case we recollect seeing also came from a man who died from traumatic rupture of the sigmoid (instrumental). Visceral syphilis of the less common types is an extremely difficult lesion to diagnose with certainty, but many of the chronic fibrotic lesions of syphilitic origin will be more easily distinguished in the future with the aid of Wassermann's reaction, which was readily obtained in the post-mortem blood of the rectal case mentioned above. Mention must be made of a piece of lung with a large honeycombed tumour of the size of an orange, which, though simulating actinomycosis, was actually tuberculous; and also an uncommon specimen of infective endocarditis from a woman, aged 25, in which the pulmonary orifice was the seat of an extensive mass of vegetations.

A magnificent collection had been loaned by the Cambridge committee for the study of special diseases consisting of specimens and skiagrams illustrating the morbid changes found in the joints of cases of "so-called rheumatoid or osteo-arthritis, and chronic gout." Skiagrams and casts and macerated specimens from individual cases enhanced the value of this exhibit, and though there is some difference of opinion as to nomenclature there can be none as to the anatomical changes. Here were to be seen exemplified the atrophic and hypertrophic varieties of rheumatoid arthritis in all stages—the early fibrillation, with velvety appearance of the cartilages, the lipping of the cartilages, the overgrowth of the synovial fringes—in one case so extensive as to recall the condition of tuberculous synovitis—the formation of osteophytes and the advanced condition of atrophy and ivory eburnation of the apposing surfaces of the joints with pseudo-ankylosis from the extreme osteophytic overgrowth. Also the less universally recognised condition of true bony ankylosis.

Some fine examples of gout, most of which seem to have arisen in the infirmaries of the metropolis, demonstrated the heavy deposits of urates in the synovial bursæ (prepatellar bursæ and those of the phalanges), and also the ankylosis sometimes associated therewith, and some kidneys had been preserved in gelatin in which the pyramids were permeated with white streaks of urates. A small granular kidney with streaks of urates in section was especially interesting, as was also a larynx showing a tophaceous deposit on a vocal cord. It must be remarked that gouty deposits are not uncommon in the joints of many people at autopsy in whom there have been no symptoms of such, but unfortunately the examination of joints is not part of the usual routine of an autopsy.

Several examples of Charcot's disease were to be found in the various sections described, showing by photographs, radiograms, and macerated specimens the hypertrophic variety with osteophytic overgrowth and enlargement occurring in the knee and elbow, and the atrophic, destructive variety as exemplified in the shoulder.

In the section devoted to Diseases of Children some of the anatomical causes of jaundice were demonstrated. A specimen of congenital obliteration of the bile ducts had come from a child aged 6 months, and there were three examples of multilobular cirrhosis (the typical "hobnail" or "gin-drinker's" liver), the alcoholic etiology of which has been for some time now recognised as requiring revision, if not as entirely erroneous. The most typical specimens of this have been seen in very young children and in patients who have certainly never partaken of alcohol. The fatty degeneration of liver in acid intoxication was demonstrated and also the same process in delayed chloroform poisoning. An unusual type of tuberculoma of the liver and spleen was indistinguishable from the lymphomata found in Hodgkin's disease, though experimental proof was forthcoming in an adjoining exhibit of the viscera of the guinea-pig which had been inoculated with some of the diseased tissue and which died with typical tuberculosis.

The brain and heart of a girl who died from chorea showed extensive subarachnoid and ventricular hæmorrhages in the former, and a ring of fine and recent vegetations round the mitral valves, a condition often occurring, but seldom seen, in the post-mortem room. A rare complication of posterior basic meningitis (meningococcal) was shown in the form of pericarditis. Pericarditis of the tuberculous variety was illustrated by two specimens; one from a child aged 2, who died from tuberculous meningitis, showed universal adhesions of the pericardium. A rare specimen was a metastatic osteo-sarcoma of the heart secondary to growth of femur in a girl, aged 15; and as a curiosity was shown the hypertrophied heart of a child, aged 6, whose kidneys were typically granular and only weighed ¼ oz. each.

The hæmorrhages into the various viscera and beneath the dura occurring in acute leucocythæmia were represented in specimens from various cases.

There were many examples of the unusual condition of congenital fœtal goitre, and side by side with these some specimens of hygroma of the neck, and a unique specimen of a false aneurysm of the internal carotid artery in a boy, aged 5, which simulated retropharyngeal abscess with fatal results. The effects of inherited syphilis on a child, aged 9 months, was shown as multiple cerebral thrombosis with patches of softening.

In a series illustrating some of the typical forms of pulmonary tuberculosis in childhood we were pleased to note one specimen drawing attention to the tuberculous enlargement of the glands at the bifurcation of the trachea, which, according to the notes on this case, may sometimes be the primary seat of pulmonary tuberculosis. The importance of these glands, so often left inflamed after whooping-cough, measles, &c., is, we think, seldom sufficiently appreciated.

Pyelonephritis of childhood is little known, so it was clinically valuable to see two kidneys from children, aged 3½ months and 7½ months respectively, who had died from this condition, which is due to B. coli infection; the urine is in these cases acid, and it contains pus cells and B. coli, and the true diagnosis is often overlooked. The condition is so important and so much commoner than is supposed that we were pleased to see these specimens and have the account of the cases.

Finally, amongst the children's diseases we have to note the numerous examples of hypertrophic stenosis of the pylorus, and four examples of primary cancer of the suprarenal body with metastases in one case in the calvarium.

In the Surgical Section there was a collection of hypernephromata about 40 in number, forming a unique collection of that peculiar tumour which arises from the adrenal body itself or from adrenal rests in the kidney tissue and which presents the structure of the normal adrenal tissue. They were mostly from adults, though one had come from a child of 4; some were malignant and enormous and had invaded all the neighbouring viscera, even the inferior vena cava, and had fungated through the abdominal wall; others were benign and small and confined within the capsule of the kidney. One such small growth was found accidentally in a man who died from advanced carcinoma of the tongue, whilst another had been found in a man who died from carcinoma of the stomach—strange examples of multiple malignant growths in the same patients. Where symptoms had existed they included pain and hæmaturia, though often no symptoms are recorded. The exhibit showed the extraordinary malignancy manifested at times by such growths, and after seeing it their existence will always be borne in mind by the observer in diagnosing early renal disease.

Amongst some examples of general cystic disease were two from patients who had both reached the advanced age of 43 years.

An instructive exhibition was formed by a large collection of malignant growths of the alimentary tract which had been removed by operation, appended to most of which were the after-histories of the cases, showing that where the growths had been excised the patient was free from recurrences often to the time of recording (15 months in some). Cancers of the transverse colon were shown from several cases in which no recurrence had occurred in 15 months, and from one patient, aged 78, were obtained two separate growths (columnar-celled carcinomata) which had caused stricture of the transverse colon and which had not recurred six months after removal. In this group, for comparison, were placed three specimens of hyperplastic tuberculosis of the cæcum which simulated cancer. There were many specimens of gastric ulcers that had been successfully excised, and one extreme example of idiopathic dilatation of the colon in a boy aged 12. There was a carcinoma of the appendix from a man aged 40, and a sarcoma of the same tissues from a boy aged 17, who two and a half years after appendicectomy is still quite well. The diseases of the breast included many specimens of tuberculous mastitis and of Paget's disease, and one example of streptotrichosis from a girl aged 24. A hydatid cyst which was removed from its attachment to the transverse colon of a woman aged 27, where it formed a cystic and freely moveable tumour reaching from the pubis to above the umbilicus, is sufficiently interesting to be noted.

In the Obstetrical and Gynæcological Section there was, perhaps, the finest collection of fibromyoma ever collected in one spot. These were of all varieties, from all parts of the uterus, of all sizes, and in all stages of degeneration; fibroids associated with pregnancy, which in some cases had gone on to a normal termination, but in others had become impacted, and yet in others had undergone necrobiosis. Red degeneration was abundantly represented, and all other varieties of retrograde changes, including hyaline, mucoid, lymphangiectatic, œdematous and cystic changes, and many examples of true calcification, some specimens being of stony hardness, like the celebrated specimens said to be found in graveyards. A large myoma with lymphangiectatic cysts weighed 26 lb., and histologically was of that type which so simulates sarcoma that the question can only be determined by the after-history of the patient. Another myoma with cystic degeneration, weighing 56 lb., had been successfully removed from a woman aged 58. There were also fibroids undergoing a true sarcomatous change, and others associated with cancer of the uterus or with complications of the appendages. Examples of adenomyomata and sarcomata of the uterus were so numerous that one might have been misled into thinking the conditions were fairly common. The sarcomata had come from single and married females.

Pathological changes associated with pregnancy were represented by hydatidiform moles, in one case actually shown with the fœtus, and the malignant variation of this—the chorion-epithelioma—which latter were shown to the number of about a score. There were examples of early chorion epithelioma and of metastases, in one case in the thyroid gland. One case had come from a married woman who had had no children, and another from a woman in the early stages of her first pregnancy, though she had been married ten years; but the majority had come from multiparous women. A case of tuberculosis of the cervix, which produced a cauliflower-like mass, diagnosed from the curettings, was from a multipara aged 41, and another from a multipara aged 37 was associated with a doubtful carcinoma, though 18 months after hysterectomy the patient was quite well. An example of pyometra, associated with B. coli, was from a multipara aged 55. We can only mention the specimens illustrative of the pathology of tubal mole and of epithelioma of the vulva associated with leucoplakia, and the interesting medico-legal specimen of a pregnant uterus pierced with a crochet needle, which could not be felt on examination, but had been removed with the uterus and its three months' fœtus with satisfactory results. The possibilities of vaginal operations were illustrated by Professor Strassmann's specimens, which included some enormous tumours and some illustrations of a uterus bifidus which had been reduced to a single fundus by operation with subsequent pregnancy on

two occasions, though no data were forthcoming as to what would have happened had the original conditions remained.

The Dermatological Section was a veritable picture gallery, and here were collected some 200 beautiful wax models made by Dr. R. Cranston Low and Miss Rae of Edinburgh and Dr. G. G. Stopford-Taylor and Dr. R. W. MacKenna of Liverpool, which were life-like reproductions of many skin affections. Especially interesting was a cast of an arm showing sporotrichosis, a disease less heard of in this country than on the continent. This parasitic disease was fully illustrated by cultures and microscopical preparations of the sporothrix itself and by histological specimens from experimentally produced lesions in animals. It may be that with a wide-spread knowledge of this infection it will be more frequently recognised in our hospitals.

The Section of State Medicine was full of specimens of general interest. Tuberculosis was exemplified thoroughly both in man and animals. Tubercle bacilli were pictured in specimens of dust obtained from the Birmingham pavements; pure cultures of bovine and human tubercle bacilli were shown and numerous specimens from cattle, pigs, birds, and fish. Amongst a large collection of specimens of parasitic diseases of man and animals there were a hydatid cyst of the human ovary and a striking example of "gad-fly" larvæ attached in numbers to the mucosa of a horse's stomach. Also the heart of a pig with swine erysipelas showing valvular verrucose endocarditis and resembling the infective endocarditis of man. Fat necrosis occurring in the sheep and the mesentery of the pig were of much interest to the human pathologist, as were also the kidney of an ox with sarcomata therein and a leukæmic pig's spleen, but the most striking specimen of all was one of secondary chloroma on the surface of a pig's kidney, with the green colour of the growth well preserved.

In the Odontological Section were collected specimens to illustrate the pathology of retained teeth, microphotographs, and specimens illustrating that vexing condition pyorrhœa alveolaris, the etiology of which still leaves much to be desired. Mr. A. Hopewell-Smith had prepared an interesting exhibit showing the solubility, or, as it appeared, the insolubility, of the various commoner sweetmeats, including the common acid drop, chocolate, "bull's eyes," &c., and also plate cultures of the "caries" bacteria obtained from each of these, but it must be noted that solubility in saliva is a far different thing from solubility in water.

In the Section of Radiology and Radium Mr. J. Hall-Edwards had arranged a striking collection. The diagnosis of abnormal and pathological conditions of the abdominal viscera with the aid of X rays is now a routine procedure, and in the case of the hollow viscera bismuth is a valuable aid. Mr. Hall-Edwards had been conducting some experiments on kittens with bismuth meals, and some of his radiograms were shown. Dilatation of the œsophagus made a striking picture in comparison with malignant stricture. Hour-glass stomachs and dilated stomachs were numerous, and one example of a prolapsed transverse colon showed the bismuth shadow reaching down to the pubis in the erect position of the patient. An interesting series of plates illustrated the use of bismuth paste in mapping out psoas abscesses before and after treatment. Amongst numerous calculi in the urinary tract were some radiographs of calcareous glands and phleboliths resembling calculi, but distinguished from them by radiographing with a ureteral catheter in position so that the shadows were seen to be outside the ureters. One radiograph of osteomyelitis of humerus showing a distinct central rarefaction was prominent amongst a valuable collection of bone and joint lesions, as were an oxycephalic skull, and some examples of cervical ribs.

INTERNATIONAL DENTAL FEDERATION.

THE opening meeting of the Eleventh Annual Session of the International Dental Federation, or permanent bureau for the organisation of international dental congresses, was held on August 1st in the theatre of the Royal College of Surgeons of England, Lincoln's Inn-fields, under the honorary Presidency of Sir Henry Butlin.

Mr. W. B. PATERSON, the President of the Federation, delivered an address, in the course of which he referred to the work of the Federation in connexion with the public dental hygiene movement, mentioning the establishment in Germany of 120 school dental clinics, and instituting comparisons between the energy displayed in that country and the slowness shown in England in grasping the dental problem in its best, simplest, and most economical method of solution—viz., the school clinic; a slowness which he attributed entirely to different financial conditions and systems of control existing in the two countries. He was grateful to the Chancellor of the Exchequer for turning the minds of people to the financial aspects of the health question, even if he had borrowed from Germany his ideas on compulsory thrift, thus ably seconding the scope of the Medical Inspection Act of 1907, which was working a silent revolution throughout the country, and which in the end must result in the most beneficial effects upon the health of the people. On the subject of dental education Mr. Paterson explained that the methods of teaching operative dentistry was the question that would engage the attention of the delegates from the different leading dental schools throughout the world. Dental pedagogy was then introduced for the first time into the work of the education committee of the Federation. Referring to the exclusion of dentists not possessing medical qualifications in addition to their dental diplomas from meetings of the International Medical Congress in 1913, Mr. Paterson said that the Federation regretted the action of the Congress Executive Council at Budapest; but in view of the intimate relationship existing between dental affections and general systemic disease, he regarded the separation of dentistry from medicine as of a temporary character.

Mr. Paterson then introduced the leading delegates and the accredited representatives of foreign Governments to Sir Henry Butlin—viz., Dr. E. C. Kirk (Dean of the Dental Faculty of the University of Pennsylvania), Professor Jessen (Strassburg), Dr. Brophy (Chicago), Dr. Weiss (Habana), Dr. Etchepareborda (Buenos Aires), Dr. Aguilar (Madrid), Dr. Grevers (Utrecht), Mr. Van der Hoeven (Hague), Dr. Godon and M. Francis Jean (Paris), Dr. Rosenthal (Brussels), Chevalier Guérini (Naples), Dr. Daubry (St. Petersburg), Dr. Schaeffer Stuckert (Frankfort-on-Main), the Secretary-General, who presented the recently completed transactions of the International Dental Congress of 1909.

Mr. NORMAN G. BENNETT, honorary secretary of the British Dental Association, extended a welcome to the members of the Federation, and invited them to attend the association's annual meetings which followed immediately upon the Federation's.

Sir HENRY BUTLIN, in an eloquent speech, expressed the pleasure that he felt in presiding over the Federation's opening meeting within the walls of his College. Possessing such an admirable odontological museum as the College did, and so many interesting dental exhibits in the work of John Hunter, he could conceive no more fitting place for the meeting of such a body of dental experts. Sir Henry Butlin then proceeded to discuss cancerous affections of the tongue, with especial reference to possible predisposing dental causes. Of leucoplakia as a preceding local condition of cancer in persons predisposed by gout, rheumatism, or syphilis, he was quite certain. Of the exciting causes of leucoplakia, he placed tobacco smoking first. He asked the members present to recall frictional conditions resulting from rough metal stoppings, or edges of teeth leading to leucoplakic patches, and he asked for information respecting the qualities of red vulcanite, as used in plates, which might have a similar irritating tendency. In conclusion, Sir Henry Butlin showed the well-known and classical specimens of teeth prepared by John Hunter in illustration of transplantation, as also several examples of pathological neoplasms and affections of the dental periosteum.

At the conclusion of the honorary President's very interesting address a hearty vote of thanks was, on the motion of Mr. PATERSON, carried with acclamation by the largely attended meeting.

The succeeding meetings of the Federation and its committees on Hygiene, Education, Documentation and Bibliography, and Dental Terminology were held at the University of London.

A visit to the Barnet factory of the Dental Manufacturing Company was paid by the Federation for the purpose of witnessing, among other interesting demonstrations, the methods of preparing and mixing the ingredients of red vulcanite rubber.

THE LANCET.

LONDON: SATURDAY, AUGUST 19, 1911.

The Incidence of Anthrax.[1]

IT has long been a matter of comment by our continental critics that so small a proportion of the research work carried out in this country is directly done at the instigation of the State, and that the expenses incidental to such research are defrayed either by private enterprise or by large commercial undertakings. Whether this condition of affairs, leaving as it does individual workers wholly unfettered by red tape, tends to produce more valuable results or not is a matter upon which we do not feel called upon to pronounce an opinion; but the fact remains that many most valuable results have been, and are being, obtained by workers whose devotion to research has been rendered possible by the munificence of one or other of our great City companies. The Goldsmiths and the Grocers have for many years past expended large sums annually in the promotion of research, and at the present moment we have before us a report published by the Worshipful Company of Leathersellers on "The Incidence of Anthrax amongst those Engaged in the Hide, Skin, and Leather Industries, with an Inquiry into Certain Measures aiming at its Prevention." This report has been drawn up by Dr. CONSTANT PONDER, the bacteriologist to the Company's technical college, who has recently been engaged in investigating industrial anthrax, and its perusal satisfies us that considerable progress has been made in the attempt to render innocuous to the workman the infected hides which reach this country in such large numbers.

Dr. PONDER, in one of the opening passages of the report, refers to VIRGIL'S description of cattle anthrax in the Third Georgic, and points out that even in ancient times it was recognised that the incautious handling of infected hides might have terrible results:—

> "Ardentes papulæ atque immundus olentia sudor
> Membra sequebatur."

He proceeds to discuss fully such subjects as the animals that commonly suffer from anthrax, the localities in which the disease is commonest and the seasons in which it occurs, the symptoms of the disease in animals, and the conditions under which the infection is conveyed, together with the collection, cure, and shipment of hides and skins. From his multifarious investigations Dr. PONDER draws several interesting and important conclusions. Some 40 per cent. of all the cases of anthrax in British leatherworkers are due to handling Chinese or East India goods. The cutaneous infection is the most common, 82 per cent. of the cases exhibiting pustules on the head or neck. No case of pulmonary anthrax infection, such as occurs amongst the Bradford woolworkers, has been reported amongst those working in hides and skins, and only two cases of the intestinal form have occurred in the last seven years. Speaking generally, infection is contracted either at the wharf and dockyard or in the tannery, these two localities combined giving a percentage incidence of 50. The point in Dr. PONDER'S report which is well brought out, and upon which great stress is laid, is the fact that the infective material—i.e., the anthrax spore—is most likely to be found in discharges dried upon the fur, or in blood spilled when the animal was flayed and likewise dried upon the fur, and at the cut ends of subcutaneous capillaries; so that the most urgent economic problem that presents itself is how to destroy the anthrax spores when protected by a thin layer of blood, mucus, or fæcal material without at the same time destroying the commercial value of the hides in which the infection occurs. Having elicited these facts, the report next deals with the measures aiming at the prevention of industrial anthrax, and in this connexion Dr. PONDER has carefully studied the many and varied methods, having for their object the destruction of the infective material, which have been suggested from time to time by workers at home and abroad. Perhaps the most ingenious method is that suggested by BREKLE, which attempts to take advantage of the fact that at a temperature of 43° to 44° C. existing anthrax spores germinate, but no new ones are formed. BREKLE would expose the hides and skins to this temperature for 48 hours and then plunge them into a liming pit with sufficient milk of lime to destroy all the resulting vegetative forms. This method, however, would hardly commend itself to the leather trade, for if the disinfectant used is present in sufficient concentration to destroy the anthrax spores the hide itself is ruined for commercial purposes. More promising lines of inquiry are opened up when it is shown that no case of anthrax infection has ever been traced to wet, salted hides, and Dr. PONDER strongly recommends that all hides and skins should be imported into the country in the wet, salted state. This is a plan which has much to recommend it from the point of view not only of the leatherworkers themselves, but also of the brokers and even of the shippers, but pending the introduction of regulations enjoining this practice active disinfection would seem to be necessary. On a previous occasion[2] we have commented upon the work carried out by Dr. F. W. EURICH on behalf of the Anthrax Investigation Board in Bradford, and his attempts to render wool innocuous by steeping the bales before they are opened in formaldehyde solution, but when dealing with hides and skins the use of formaldehyde becomes impracticable, since it so injures the consignments as to prevent them being turned into good leather.

Dr. PONDER finally gives his support to the method suggested by Mr. SEYMOUR JONES, the chairman of the International Commission for the Preservation, Cure, and Disinfection of Hides and Skins. This method practically converts the goods into the "wet salted" state, and consists

[1] A Report to the Worshipful Company of Leathersellers on the Incidence of Anthrax amongst those Engaged in the Hide, Skin, and Leather Industries, with an Inquiry into Certain Measures aiming at its Prevention. By Constant Ponder, M.D. Cantab., D.P.H., Bacteriological Assistant at the Leatherseller's Company's Technical College, Bermondsey, London; Second Student, John Lucas Walker Trust. Published by the Worshipful Company of Leathersellers, London. 1911. Price 2s. 6d.

[2] See THE LANCET, Nov. 14th, 1908, p. 1453.

in treating the hides for 24 hours in a soak containing 1 per cent. of formic acid and 0·02 per cent. mercuric perchloride, and then transferring them to the ordinary brine pit. Under laboratory conditions this method is capable of destroying the infection on hides, and, equally important, does not interfere with the due action of the subsequent processes to which the hide is subjected in its transformation into leather. It is further pointed out that the method is so simple in application that it could readily be employed at the port of shipment.

Vaccine Therapy in Gynæcology.

THE treatment of puerperal septicæmia by means of antistreptococcic serum, from which so much was anticipated on its first introduction, must be held to have proved disappointing. A committee appointed by the American Gynecological Society reported upon 352 cases treated with serum among which the mortality was about 20 per cent., while among the cases treated in other ways the death-rate only amounted to some 5 per cent. It is difficult to believe that this conclusion really represents the truth of the matter, since it is probable that only the worst cases and those which failed to respond to other measures were treated by serum, but it serves to show how hopeless it is to attempt to prove the value of therapeutic measures of this kind by statistics. It is especially difficult when dealing with the many varying diseases which may result from the action of the streptococcus, since there is at the present time no agreement among writers on the subject as to how many varieties of this organism exist. Some maintain that they are all practically the same, while others have enumerated as many as 18 different species. It is obvious that statistical results, referring as they often must do to diseases not in reality due to the same organism, can have but little value. Not only may the diseases produced by streptococci be of very varying nature, but it is at the present time uncertain that the same strain of organism is always involved in the production of what appears to be the same disease. Possibly this is the explanation of the fact that one brand of serum may fail in any given case, while another of different origin may succeed. For this reason, if no result follows the use of a serum, another kind whenever possible should at once be tried. Further difficulty in carrying out this mode of treatment is offered by the fact that the serums keep very badly and therefore must be used freshly prepared. A fallacy only too often present in some, at any rate, of the recorded cases is the absence of proof that the streptococcus, and that organism alone, was the offending agent. Obviously, unless it is certain that the case is one actually due to the presence of the streptococcus in the blood or in the tissues, the use of an antistreptococcic serum can be of no avail, nor can any beneficial result which may be obtained be attributed with certainty to the action of the serum. It must be remembered, too, as Sir ALMROTH WRIGHT has pointed out, that the method of preparing many of these sera is far from perfect, and that the quantity of protective material which many of them possess is very problematical, while they may even contain bacterial products which may produce effects other than those desired.

The disappointing results following the use of antistreptococcic serum, more especially in cases of puerperal fever, led not unnaturally to the method of treatment by vaccines being received with a considerable amount of hopefulness. It is true that cases of generalised infection, such as occurs in general septicæmia, do not appear at first sight to belong to the class of case likely to be benefited by the use of a vaccine. Inasmuch as in these cases large numbers of bacteria must be already circulating in the blood, producing an intoxication, it would appear irrational to expect from the introduction of further bacteria anything more than an aggravation of the intoxication. The good results, however, which have in some cases followed their use appear to show that even in such instances they may prove of value. It must be remembered, too, that according to WRIGHT'S views the antibacterial elements, or so-called bacteriotropic substances, are manufactured in the tissues at the seat of inoculation. In the case of an inoculation, therefore, the vaccinating elements will come in contact with the tissues in a more concentrated form than if they were introduced into the blood stream and diluted by the whole volume of the circulating blood. It would, therefore, seem not irrational to assume that a patient, even when suffering from general septicæmia, might derive benefit from the use of a vaccine. In answer to the further objection that the degree of intoxication will be increased, may be urged the fact that the local toxic effect upon the tissues and the elaboration of antibacterial substances are inexplicable unless we assume that the toxic bodies are retained *in situ* at the seat of inoculation. The question seems, therefore, one which trial and experience alone can decide. The report of a committee appointed by the American Gynecological Society to investigate the results of vaccine-therapy in gynæcology was published in the last volume of its Transactions. The committee considered the whole matter very fully, and its report contains some valuable conclusions. In cases of chronic gonorrhœal infections it found that satisfactory results appear to follow this mode of treatment, and especially was this the experience in treating the vulvo-vaginitis of little girls. The committee endorses the view that vaccine-therapy has a definite place in the treatment of chronic gonorrhœal affections in the female, and states that in many cases it appears to be more efficient than local antiseptic treatment. While, as a general rule, in cases treated by vaccine-therapy the best results are obtained when the vaccine is prepared from the actual organism present in the body, in cases of gonorrhœa equally good results appear to be obtained by the use of a stock preparation comprising a dozen different strains. The practitioner will, however, be disappointed unless he remembers that in some cases of chronic discharge, produced primarily by the gonococcus, the organism has quite disappeared, and the persistence of the discharge is due to the presence of staphylococci, often of a low grade of virulence. In such cases naturally a gonococcal serum will prove of no avail. In the treatment of infections of the urinary tract, such as the pyelitis and pyelonephritis of pregnancy, useful results are obtained, but they appear to be much the same as those following ordinary symptomatic treatment—namely, the alleviation of the symptoms without the complete disappearance of the organism from the urine until

the termination of the pregnancy. Vaccine treatment has been carried out in some chronic infections of the generative tract by a few observers, but the results are too few to be of much value. In cases of local suppuration following on pelvic inflammation good results might be anticipated by the use of appropriate vaccines, and encouraging examples have been reported.

When we consider the circumstances existing in cases of acute generalised infection, which may be present in any case of puerperal septicæmia, it is obvious that the remedy must be capable of dealing with such conditions as general peritonitis or general blood infection. It is, therefore, not surprising that the results obtained are far from encouraging. Further, as there appear to be so many different varieties of streptococci it is necessary to use a vaccine prepared from the particular organism present; this requires time for its preparation, and time in such cases is a most important element in the success of the treatment. It may be said, then, that while cases in which the infection is in any way localised are likely to derive great benefit from vaccine-therapy, the outlook in cases of general infection is not nearly so hopeful. At the same time the question is one which still is open for solution, and it is one which can only be decided by continued and searching trials. It is possible that better results may be attained from a suggestion made by WRIGHT. As we have mentioned already, the rationale of vaccine-therapy is found in the exploitation of the unexercised immunising capacities of the uninfected tissues, the antibacterial substances being elaborated by the tissues into which the vaccine is injected. If this be so, may it not be possible to obtain a summation effect in cases of general infection by simultaneous inoculations at several different sites? The value of such a procedure is for the future to decide, but it would seem to hold out much promise, especially in cases where an immediate and rapid effect is required, as, for example, in cases of such general infection as occurs in puerperal septicæmia.

Fashion and Progress in Operative Surgery.

WE complete this week a comprehensive, though necessarily abbreviated, report of the scientific proceedings at the various sections of the recent meeting of the British Medical Association at Birmingham, and take the opportunity to refer in some detail to the Address in Surgery. This was delivered by Mr. JORDAN LLOYD, who took as his opening theme the changes which have occurred in the surgical outlook between the several occasions on which the Association has met in Birmingham. Each time that the annual meeting has been held in that city the surgical orator has dealt with some current questions. At the first meeting, in 1856, LANGSTON PARKER delivered the address, and dealt with the treatment of cancers with caustics, advocating this method of treatment, not merely for small and superficial cancers of the skin, but for all cancers, of whatever size and location. The great argument which he advanced in favour of this method was the inutility of operations with the knife performed for the removal of the disease. Although it cannot be denied that caustics can sometimes effectively remove small superficial cancers, especially some forms of rodent ulcer—and, indeed, the recent employment of carbonic acid snow shows that similar methods are considered trustworthy—yet few surgeons would now venture to treat a malignant growth of any size with caustics, and the method finds its chief exponents in the ranks of quacks. There are some who will still remember the lecture on Cancer Cures by SPENCER WELLS in the "sixties," and his exposure of the danger, pain, and uselessness of caustic methods. In the 55 years which have passed by since LANGSTON PARKER delivered his address operative surgery has made immense strides, and the extension of the operations performed for malignant disease has been followed by a greater percentage of recoveries, so that hardly anyone ventures to dispute the efficacy of operative surgery in cases which have not progressed too far, while no surgeon would consider that he had done his best for a cancerous case, unless the lesion were quite a superficial one, by trusting to a caustic application. We know more and we can do more.

Sixteen years elapsed before the Association met again in Birmingham, when OLIVER PEMBERTON, who delivered the Address in Surgery, selected for notice, as among the conditions which he regarded as of prime importance in surgery, surgical aneurysms and lateral lithotomy. Surgical aneurysms appear to have been more common at one time than at present, if we may judge by the attention paid to their treatment, though we know of no statistics which can fully decide the matter. At all events, at present in this country, aneurysms which may be called surgical are extremely rare, and their treatment is simple and well established, though much ingenuity has of recent years been displayed in devising new methods of dealing with them. It is, at all events, certain that no surgeon of to-day would consider surgical aneurysms as a subject suitable for a full dress oration to a large congress in plenary assembly. The condition does not play a sufficiently important part in ordinary life, while the opportunities for elaborate technique offered by its treatment are quite surpassed in the vast possibilities of modern operative procedure. PEMBERTON in his next subject, the performance of lateral lithotomy, dealt with an operation which has practically ceased to exist. At one time it was of immense importance; it was looked upon as the operation which best displayed the skill, the knowledge, and the dexterity of the surgeon, and the publication of a series of cases without a death was a legitimate source of pride to some surgeons. Yet now it is certain that a large majority of our younger surgeons, and even some who are approaching middle age, have never seen the operation performed. Some of the smaller text-books of operative surgery are omitting to describe it; for instance, it is not to be found in the last edition of TREVES and HUTCHINSON'S "Student's Handbook of Surgical Operations." Lateral lithotomy has had to give place partly to the suprapubic operation and still more to lithotrity as practised by BIGELOW. Lateral lithotomy was ingenious and effective; in skilled hands it gave remarkable results,

and the mortality from it was very small. Yet in spite of its merits, and in spite of its results, it is dead.

In 1890 LAWSON TAIT delivered the Address in Surgery at Birmingham. The more recent date makes the fact less obvious in his stirring words that fashions change as surgery progresses, but none the less some of TAIT'S most dogmatic teaching is now not acquiesced in. It is needless to follow Mr. JORDAN LLOYD through the other examples which he brought forward of operations and methods no longer in vogue that have had their day and ceased to be. We may feel sure that in their turn many of our operations and our methods on which we pride ourselves will be superseded and will pass into the realms of the forgotten. Some must survive, and amongst these we may with confidence place the modern treatment of wounds; the details will be modified, the methods will be changed, but the intention of excluding germs from the wound will still persist. This, however, will be rather the perpetuation of a principle than the maintenance of a technique. Few probably will be the exact methods now employed which will be able to withstand the gnawing tooth of time. Thus a survey of some of the successes of the past should arouse in us a feeling of humility and a feeling of pride. We recognise in the establishment of unchangeable principles the genius and industry of our forerunners; we perceive in the oblivion that has fallen upon the very exploits with which they were most well pleased the fact that some of our own finest technical work will die, or will at any rate be superseded by its legitimate developments. As the world progresses surgery will progress. New conditions must bring new problems to the surgeon, but new discoveries will furnish him with new weapons against them.

Annotations.

"Ne quid nimis."

THE SUN IN POISONOUS DOSE.

IT is not often in this country that sunshine becomes a monotony, but there is little doubt that a good many people, quite apart from any agricultural or industrial avocations, would just now regard with relief a cloudy and rainy day. Insolation has its glories for medical science, inasmuch as not all the carbolic acid in the world can furnish such a supply of germicidal power as does the sun. Sunlight completely destroys the vitality of most disease producing organisms. These intense chemical effects of sunshine cannot, however, be without great influence upon the human organism, the question of germs apart. Posology must play its part even with sunshine, and with overdoses bad effects may well be a probability. It is an interesting coincidence that labour troubles of no mean magnitude have broken out during an unwonted spell of sunshine. Of course, we are not regarding the strikes as caused by the heat, as the reasons for the prevailing unrest have many of them been obvious for many months. But it is not at all improbable that the heat has played its part in the form which the manifestations have taken. Let us remember that the failure of the white races to colonise certain tropical tracts has been attributed to the excess of light which there prevails, and not to the heat or humidity. The white man in the tropics gradually becomes disinclined to work under the influence of the actinic agencies of the sun; he grows neurasthenic, and finally breaks down. The widespread discontent of the labouring classes reached an acute stage during a period of excessive and intense light which promises to break all existing records. Have the forces of the potent sun, consequent upon a long period of chemically active sunshine, altered the energies of the body and mind of the worker, as in the case of the would-be coloniser in the unsuitable tropics? In an admittedly bad state of affairs, has an overdose of sun proved a poison? In other words, should sunshine, like so many good things, be doled out on posological lines, lest it poison the individual? When the dark days of winter come we shall yearn again for some of this "poison," knowing, however, full well that then the doses, even when continuous, are less potent; but it is quite possible that the instinct is a sound one which makes many of us, inhabitants of what should be a temperate zone, almost resent unbroken heat.

THE SCOPE OF A MEDICAL MAN'S AUTHORITY.

IN another column will be found a letter with this title, over the initials "M.D.," which describes how the writer, after being called in to attend a footman, treated him at the house of his mistress, as the man refused to be moved to the nearest infirmary. The somewhat unlooked-for circumstance connected with the case consists in the mistress being now disposed to criticise the medical man on the ground that he has instituted a precedent under which her servants, if they become ill, will in future insist upon being nursed in her house, to her inconvenience. The point has apparently been suggested to the lady by her friends, who can hardly have included a lawyer among them, or he would have been careful to explain to the mistress that the authority which she exercises over her domestics arises out of her contract with them. They are not the servants of the medical practitioner whom she calls in to attend them, or whom they may employ, and his authority over them is limited to recommendations which, so far as he is concerned, they are at liberty to disregard. In the case put forward by "M.D." we have no doubt that he gave sound advice to the footman when he told him that he "must" go into the nearest infirmary, and when he declined, as we understand, to sanction his taking a journey of 150 miles. The man, however, could have insisted upon going home, provided that he were capable of taking the necessary steps to do so, and his medical attendant could not have prevented him from going any more than he could lawfully have forced the infirmary upon him. The servant's employer is in a different position. As to the precise extent of the mistress's authority upon such an occasion we have no intention to advise, but, except that it should always be exercised with due regard to the dictates of humanity, we have no doubt that the lady could not be compelled to keep her footman in the house owing to the mere fact of his preferring to remain there. The absolutely forcible removal of a sick servant might be a step from which a master or mistress would shrink, but there are degrees of insistence open to them which go beyond any pressure that a medical attendant can exert or can be asked to attempt. The case described would seem to have been one for more or less authoritative persuasion on the part of the employer, and if we assume that the medical man was ready to take the responsibility of saying that treatment in the infirmary referred to would be adequate, and that removal to it would not entail risk or undue suffering to the patient, there is no reason why such persuasion should not have been exercised. After all, however, the prolonged illness of a servant such as

that described is not an incident of frequent occurrence even in large establishments, and the mistress referred to will probably have ample time to consider a course of procedure to meet the next occasion before it arises. Let us hope that the footman was duly grateful for the consideration accorded to him and that his mistress will have no reason to regret her kind treatment of him.

ARTERIAL LESIONS IN ANCIENT MAN AND THEIR LESSONS.

FEW pathological conditions have given rise, perhaps, to more diverse views as to their etiology and significance—and, as a consequence, to more conflicting rules of conduct—than arterio-sclerosis and allied arterial degenerations. This condition has been held up as the pathological "horrible example" by antitobacconists, total abstainers, diet faddists of all kinds, contemners of athletics and of the wear and tear of modern life. Apart, therefore, from its antiquarian interest, a paper by Dr. Marc Armand Ruffer describing his examinations of the Arterial Lesions found in Egyptian Mummies [1] deserves thoughtful consideration for the sidelight it throws on ultra-dogmatism in support of preconceived controversial theories. Dr. Ruffer first describes the procedure of dissection and the preparation of the specimens for the microscope. It appears that the embalmers of the twenty-first Dynasty removed not only the viscera but the aorta and most of the muscles of the body, packing the spaces thus created with mud, sand, or rags. Sometimes sawdust mixed with a resinous material of unknown nature (but certainly not bitumen) was used. It was only rarely that a portion of the aorta or one of the large arteries was left behind, but fortunately the posterior peroneal artery, owing to its deep situation, often escaped the embalmer. The isolating of the arteries is a very disagreeable process, for the hard black material lining the walls of the cavities after removal of the packing is not removable by water, but has to be taken away mechanically, thus creating an irritating dust. The packing does not appear to contain pathogenic microbes, for no inflammation ever followed the numerous cuts and scratches. The arteries, when dissected out, are placed for 24 hours in a solution containing carbonate of soda 1 per cent. and formol 0·5 to 1 per cent. They are then immersed for some weeks in glycerine, to which a few drops of formol have been added. Calcified artery is decalcified in Marchi's solution for 24 hours and cut in the usual manner. Dr. Ruffer gives a description of specimens from 24 subjects, consisting of aorta, brachial, anterior and posterior tibials, posterior peroneal, femoral, profunda, radial, ulnar, and palmar arch. The results of the examination are given and points of interest noted as follows: (1) that the muscular coat may be changed almost wholly by calcification, following on degeneration of the muscle fibre, into a magma of no particular structure; (2) that the disease very often seems to pick out the point of origin of the smaller arteries. Dr. Ruffer considers that there can be no doubt that the condition is exactly the same as is seen at the present day—namely, calcification following on atheroma, and that, in spite of the 3000 years that have elapsed since death, the lesions are still recognisable by their position and microscopical structure. "The earliest signs," he says, "of the disease are always seen in or close below the fenestrated membrane—that is, just in the position where early lesions are seen at the present time. The disease is characterised by a marked degeneration of the muscular coat and of the endothelium. These diseased patches, discrete at first, fuse together later, and finally form comparatively large areas of degenerated tissue, which may reach the surface and open out into the lumen of the tube." The correspondence of the disease to that recognised at the present time is obvious. In Dr. Ruffer's opinion, therefore, "the old Egyptians suffered as much as we do now from arterial lesions identical with those found in the present time. Moreover, when we consider that few of the arteries were quite healthy, it would appear that such lesions were as frequent 3000 years ago as they are to-day." As to causation, Dr. Ruffer considers that tobacco can certainly be eliminated, as this drug was not used in ancient Egypt. While alcoholic beverages played a part in Egyptian social life, Dr. Ruffer holds that it is clear that the Egyptians, as a race, are not, and never have been, habitual drunkards. Moreover, Dr. Ruffer has found the disease just as common in over 800 post mortems of Mussulmans who had certainly never touched alcohol in their lives. This fact has led him to call in question the importance of alcohol as a cause of arterial disease. As to the "increased wear-and-tear" theory of modern life, there is no evidence that old Egyptians worked too hard, either mentally or physically; the time tables of workmen which have been discovered show that the Egyptian navvies of ancient times toiled practically the same hours as the Egyptians do now. In Dr. Ruffer's opinion, too, the theory that the wear and tear of human life has increased is a myth, the fact being, he says, that our life is easier and that we work less than our ancestors did. Meat, too, is something of a luxury in Egypt, and Dr. Ruffer's experience in Egypt and the East has not strengthened the opinion that meat eating is a cause of arterial disease. Finally, he holds that strenuous muscular exercise can also be excluded as a cause, for there is no evidence that ancient Egyptians were greatly addicted to athletic sports, though they liked watching professional acrobats and dancers. In the case of the priests and priestesses of Deir-el-Bahari, which formed the greater proportion of those whose mummies were examined, it is highly improbable that they were addicted to much muscular exercise.

[1] Arterial Lesions found in Egyptian Mummies (1580 B.C.–525 A.D.), by Marc Armand Ruffer, Journal of Pathology and Bacteriology, vol. xv., 1911.

THE CONDITIONING OF WINE.

ONE of the most delicate wines is claret, and it is its delicacy which, justly we think, has brought it the *sobriquet* of a temperance wine. It contains least alcohol, acidity, and sugar amongst wines, but it easily spoils, and according to recent researches the element which spoils it is oxygen. The quicker it spoils by this agency the more delicate as a rule is the wine, and a good claret is not a wine to be left more than many minutes exposed to the air before it is consumed. There are some people who do not understand this, or do not appreciate the horrid result of their action, for they will re-cork an unfinished bottle. If this were done under an atmosphere of nitrogen there would be no complaint, for if oxygen is carefully excluded the wine remains sound and palatable. When wine, in fact, is left in an inert atmosphere, and for choice nitrogen appears to be the best atmosphere for the purpose, clarification rapidly takes place and the wine soon begins to assume a character with which good bottling and long keeping endow it. Fermentation ceases, the organisms die and retire to the bottom with a sediment which is desirably eliminated. It is not improbable that the maturing process of a wine in bottle is due to the small quantity of oxygen in the air first being absorbed, leaving only inert nitrogen which fails to support the vitalities of the organisms normally present in the wine. When the activities of the organisms thus cease the wine assumes in a quite short time all the qualities of a matured sound article. This view is expressed with such

confidence that the proposal has seriously been made to pump an atmosphere of nitrogen over wine stored in bulk.

EPIDEMIC DROPSY IN CALCUTTA.

IN the latter part of 1909 and during 1910 a considerable outbreak of epidemic dropsy, or beri-beri, occurred in Calcutta. Major E. D. W. Greig, of the Indian Medical Service, was deputed to inquire into its causation, and has now furnished a first report.[1] The main conclusions arrived at are that no specific cause is to be found in the blood or œdematous fluid in cases of epidemic dropsy, which disease closely resembles "ship beri-beri," that it is not infectious, and that it is a disease of nutrition, being induced by a "one-sided dietary." During the investigation of the distribution of cases in Calcutta it was found that the better-class European quarter escaped altogether; it was also found that two populous wards inhabited by Hindus were but slightly affected in comparison with those around them. On further inquiry it appeared that these two wards were very largely inhabited by a community of Hindu merchants, known as Marwaris. These people consume much less rice than the Bengali population generally, taking wheat (*áta*) and pulse instead. On further inquiry it was found that the few cases of epidemic dropsy that did occur in these wards were among Bengalis (rice eaters), not among Marwaris. This was a very significant fact, as the sanitary conditions of both sets of people in these wards were similar, and were no better than in the native quarters of Calcutta generally. Chemical analysis and histological examination showed that in the process of "polishing" carried out in the mills at Calcutta and elsewhere certain constituents essential to nutrition are removed from the rice, and that the *áta* habitually eaten by Bengalis is also so finely sifted that it is deprived of these ingredients even more than rice itself. Pigeons were fed on "polished" rice, such as is consumed by the people affected, and were found to lose weight and to suffer from characteristic polyneuritis, while control pigeons fed on a mixture of wheat and pulses kept up their weight and remained in good health. Analyses have shown that the amount of phosphoric anhydride in unpolished rice is about twice as much as is present in polished samples. Further, the two severe outbreaks of epidemic dropsy in Calcutta that have occurred in 1877–79 and 1907–09 have synchronised with a high price of food grains, and with a fall in prices they have come to an end. It has to be remembered that the two prominent features of epidemic dropsy—viz., swelling of the feet and breathlessness—may be produced by ankylostomiasis and by over-indulgence in alcohol; to sustain the diagnosis of beri-beri, therefore, each case must be carefully examined. Also, the treatment of food grains by "polishing," and the removal thereby of portions containing physiologically important constituents of food, only forms part of a general problem, the "one-sidedness" of a dietary; this may be brought about in other ways—e.g., by an exclusive consumption of fine, starchy, wheat flour, such as fine *áta*. This inquiry substantiates the conclusion arrived at by Fraser and Stanton in their investigation of beri-beri causation in the Federated Malay States (1909), that the polishing of rice in steam mills removes substances essential for the nutrition of nervous tissue—viz., phosphorus compounds. Chemical analyses by Mr. D. Hooper, who was associated with Major Greig, showed that unpolished rice contained 0·6 to 0·8 per cent. phosphorus pentoxide, while the polished grains contained only 0·40 to 0·45 per cent., and the polishings (koorah) contained over 3 per cent. The phosphorus and the fat are concentrated in the outer layers, while the nitrogen is distributed throughout the grain; the same holds good in the case of wheat. This inquiry is still progressing, but that the phosphorus content of the dietary is the predominant factor in causation appears to be proved. Prevention would consist in improving the dietary value, either by using unpolished food grains, or by adding rice and wheat bran removed in the cleaning process, or by substituting for part of the rice consumed some other grain rich in phosphates, such as *mung dal* (*Phaseolus radiatus*); the addition of fresh meat would also be of value. Major Greig concludes by observing that the present mode of estimating diet values by determination of the quantities of protein, fat, and carbohydrate requires further investigation.

[1] Scientific Memoirs of Officers of the Medical and Sanitary Departments of the Government of India. New Series. No. 45. Epidemic Dropsy in Calcutta. First Report. By Major E. D. W. Greig, M.D., D.Sc., I.M.S. Calcutta, 1911. Price 2*s*.

BRUIT SYNCHRONOUS WITH THE HEART SOUNDS HEARD OVER A PULMONARY CAVITY.

AT a meeting of the Société Médicale des Hôpitaux of Paris on April 7th M. G. Variot and M. Henri Dumont showed a woman, aged 22 years, who had a very rare bruit. She was admitted into hospital for pulmonary tuberculosis. There was marked depression of the chest on the left side below the clavicle. In the first, second, and third intercostal spaces was a slight undulation corresponding to the pulsations of the heart. On percussion there was in front on the left side slight dulness at the apex, and below this more marked dulness which extended from the median line across the chest to merge into dulness at the base. On the left side behind there was slight dulness at the apex and dulness at the base below the inferior angle of the scapula. On the right side percussion was normal in front, but there was slight dulness at the apex behind. The apex beat was in the fourth intercostal space and above it a faint systolic murmur of variable intensity was heard. At the apex of the right lung, in front and behind, fine and crackling râles were heard. On the left side respiration was harsh and slightly blowing and there were some splashing sounds. A bruit of a metallic character, with its maximum at the inner border of the scapula behind and in the third intercostal space in front, was distinctly heard. It was also heard at a distance of three metres from the patient, but with a different timbre. It sounded like the "tic-tac" of a large watch or of a clock, and was synchronous with the pulsations of the heart. The bruit was heard at night by the other patients in the ward. The bruit was very variable; the patient said that it was absent on certain days, but it rarely disappeared for an entire day; usually it reappeared after some moments. The patient said that it disappeared when she had palpitations of the heart and when she stopped breathing. On compressing the thorax with the hand at the level of the third intercostal space the bruit was modified and its rhythm was changed; on increasing the pressure it disappeared entirely. Its intensity varied from moment to moment; it was more distinct when the mouth was opened than when it was shut, as a result of resonance in the upper air passages. Finally, it varied in rhythm; sometimes it was simple "tic," but usually it was double—a "tic-tac"; several times it was observed to take the form of a long and two short sounds ("tic tac-tac"). There was abundant thick, greenish-yellow expectoration containing numerous tubercle bacilli, but there was no pyrexia. Radioscopy showed that the diaphragm was two or three centimetres higher and moved much less on inspiration on the left than on the right side. The greater part of the left lung, especially at the apex, was opaque; there was a clear zone only opposite the third intercostal space. The opacity was such that it was impossible to distinguish the

limits of the shadow of the heart which merged into that of the shadow of the lung. However, it could be stated that the heart had been dragged to the left by adhesions, for there was no shadow on the right of the spine corresponding to the right auricle. There were certain opacities on the right of the spine which seemed to correspond to swollen bronchial glands. On the right side the apex of the lung was opaque, but much less so than on the left side. Dr. Variot and Dr. Dumont suggested that the bruit was produced by the passage of air bubbles through a layer of fluid contained in a tuberculous cavity; hence its metallic character. They explained the synchronism with the heart by pleuro-pericardial adhesions by means of which the cardiac pulsations caused the pressure of the air in the cavity to vary so that air passed in and out. A somewhat analogous phenomenon has been described by Barth and Roger in their Traité d'Auscultation. They refer to a bruit heard at a distance from the patient which they compare to the quacking of a duck. They attribute it to an aneurysm projecting into a pulmonary cavity with a narrow orifice, and driving out air with each pulsation. Hence the bruit ceases when the patient stops breathing, as the air in the cavity is not renewed. However, this explanation was not applicable in the present case, for there was certainly no aneurysm. The physical signs heard over a large cavity which contains fluid and which communicates freely with a bronchus are capable of much variation. The murmur described above is rare, but is occasionlly heard when there is an extensive excavation on the left side. It has been attributed by some observers to conduction of the heart sounds through the cavity.

ALCOHOLISM, BIOMETRICS, AND DIALECTICS.

THE heated controversy provoked last year by the memoir of Professor Karl Pearson and Miss Ethel Elderton on "The Influence of Parental Alcoholism on the Offspring" has spent its energy. Professor Pearson, however, is too doughty a fighter to be silenced by the indifference of the spectators to the outcome of the contest, and, in default of other channels for giving publicity to his views, he has returned to the attack in a fresh pamphlet in the series of frankly polemical publications which he issues under the expressive title of "Questions of the Day and of the Fray." It is hardly necessary to say that Professor Pearson's treatment of his critics—Sir V. Horsley and Dr. Mary Sturge are the culprits—is vigorous, and it is only fair to admit that the passages which he quotes from his opponents show that they also have been able to contribute their share of strong language. In all controversy conducted in this spirit there is, of course, some risk that the cloud of invective may obscure the real issues, but in this particular instance the discussion has become so hopelessly befogged that such an explanation seems insufficient and we are forced to look for some deeper source of confusion. Professor Pearson's latest pamphlet may perhaps help us in this quest, for it brings out rather more clearly than has yet appeared the extraordinarily nebulous character of the data about which all this pother has been raised. To illustrate this point it is sufficient to take a single instance of the matters in dispute between the biometricians and Sir Victor Horsley. They fail to agree, it appears, about the "alcoholism" of a woman who figures in the report of the Edinburgh Charity Organisation Society, from which Professor Pearson obtained a large part of the material for the original memoir. In describing the habits of this interesting lady, Sir Victor Horsley, we learn, used the words "drinks but never seen to be drunk," whereas according to Professor Pearson the report had it "not teetotal but never seen the worse for drink." Professor Pearson sees in this change of terms a proof of Sir Victor Horsley's wickedness, but the ordinary person will perhaps be prepared to admit an alternative inference, and will see in the charge of perversion and in the facts that have given rise to it nothing more than a proof of the undesirability of making medical diagnoses on such remarkably slender evidence. It is to be feared, however, that this is not the sort of conclusion that some of our investigators are likely to admit. Biometricians—some at any rate—appear to be under the impression that data which imply medical diagnoses are better collected by people who are unbiased by medical knowledge. Professor Pearson himself would seem to lean to this view, for he thinks it worth his while in this pamphlet to retail a lurid story about a family of his acquaintance in which one member died from what "a most distinguished medical man" described on the death certificate as cancer of the stomach, and another was operated on by "a not less distinguished surgeon" for appendicitis, whereas, we are apparently to understand, a due appreciation of the family tradition would have shown that in both instances the trouble was due to a hereditary liability to have "something go wrong in the gall-bladder." It is a pity that a writer of Professor Pearson's eminence should use "arguments" of this kind, which can only discredit the scientific methods of which he is the recognised exponent.

CULTIVATION OF THE SPIROCHÆTA PALLIDA.

AN important advance in our knowledge of the bacteriology of syphilis is reported in the *Journal of the American Medical Association* of July 8th by Dr. Hideyo Noguchi, writing from the laboratories of the Rockefeller Institute for Medical Research, New York. He claims a success, which has hitherto been denied to investigators, in the discovery of a method for the pure cultivation of the treponema pallidum. Previous researches have, it is true, been partially successful, but in all these there has been some weak point in the chain of evidence. In some cases the micro-organisms cultivated have proved incapable of setting up characteristic lesions after inoculation into animals; in others a successful animal experiment has been performed, but with cultures which contained portions of the infected tissue with which they were inoculated, so that the lesions set up in the animal may possibly have been due to spirochætæ surviving in the human tissue used for inoculation of the culture media. Dr. Noguchi's method was to inoculate his media, not from human lesions, but from the artificially infected testicular tissue of the rabbit, which contains very many spirochætæ. The only medium which has proved suitable is serum water to which a piece of sterile rabbit tissue (preferably kidney or testicle) has been added. Liver tissue is not so good; it contains bacteria, and its large content of carbohydrate tends to rapid acidification of the cultures. The serum water, in test tubes, is rendered suitable for anaerobic cultivation by a layer of paraffin oil poured upon its surface. After the first cultivation strict anaerobiosis is not essential; and the organism can in subcultures be transferred to solid media such as gelatin or agar. The first growths are usually contaminated by other bacteria, but Dr. Noguchi has contrived two means of separating these from the spirochætæ. In the first the spirochætæ are grown through filters which retard the passage of other organisms, while the second method depends upon the fact that in stab cultures the spirochætæ grow away from the line of puncture into the surrounding medium while other bacteria fail to do so. Finally, there is the fact that the spirochætæ cultivated by these methods are pathogenic in so far that after inoculation into the rabbit's testicle they produce characteristic histological changes and are found growing freely in the infected tissue. It remains to be seen whether the same technique will enable bacteriologists to

grow the spirochæta pallida in pure culture when taken direct from suitable lesions in man; in these experiments the original spirochætæ were, as has been said, derived from experimentally infected rabbits.

THE HYGIENIC ASPECT OF PLAYGROUNDS.

THE President of the Board of Education has appointed a departmental committee to inquire and report (*a*) whether it would be consistent with due regard to educational and hygienic considerations that the minimum standard of playground accommodation for new public elementary schools prescribed in the building regulations of the Board of Education—viz., 30 feet per head of accommodation—should be modified or adjusted according to the size, design, or situation of schools, the proximity of recreation-grounds or open spaces, the density of population, the cost of land, or otherwise; (*b*) how far it is possible or desirable to define more precisely the standard of playground accommodation which the Board of Education will require under the code of regulations for public elementary schools in the case of existing schools or to regulate the practice of the Board of Education in dealing with cases in which the playground accommodation is considered to be insufficient. The committee will consist of Mr. L. A. Selby-Bigge, C.B., principal assistant secretary of the Elementary Education Branch of the Board of Education (chairman); Sir George Newman, chief medical officer of the Board of Education; Mr. J. C. Iles, H.M.I., divisional inspector for the North-Western Division; Mr. F. H. B. Dale, H.M.I., divisional inspector for the Metropolitan Division; Mr. A. B. McLachlan, of the Local Government Board; with Mr. L. J. Morison as secretary.

A NEW DIAGNOSTIC SIGN OF ORGANIC NERVOUS DISEASE.

IN the *Interstate Medical Journal* for July there is an article by Dr. Charles Gilbert Chaddock, of St. Louis, entitled "A Preliminary Communication concerning a New Diagnostic Nervous Sign." Dr. Chaddock has been struck by the ready occurrence of the Babinski phenomenon when the same form of irritation that has elicited it from the sole of the foot is applied to the skin just beneath the external malleolus, while no response can be obtained from other skin areas of the lower extremity. In cases, however, where irritation of almost any area of skin over the lower extremity calls forth the extensor toe response, the external inframalleolar area does not distinguish itself in any way. Impressed by these observations, Dr. Chaddock has been in the habit of commencing examination of the skin reflexes in patients by investigating the nature of the response from the above-mentioned region. His method is to scratch the skin with a moderately pointed nail-file. In some cases the merest touch is sufficient to excite the sign; in others, rather severe scratching may be required. He has found that the most sensitive point is usually over a slight depression just in front of the lower margin of the external malleolus. From an examination of a series of 245 cases, including normal individuals as well as a great number of all sorts of nervous cases, Dr. Chaddock is satisfied that irritation of the external malleolar area causes no reaction normally; in pathological cases extension of the great toe, or of all the toes, or fan-like separation of them, obtained from this area, is indicative of organic disease of the spino-cortical reflex paths. He concludes that the external malleolar sign is usually present when the ordinary Babinski toe response is present; that it is often present when the latter is absent; that it may precede, coexist with, or outlast, the latter, and that its presence or absence is of considerable help in the interpretation of doubtful movements obtained by stimulation of the sole of the foot. In his experience no case presenting an extensor response from the sole has failed to present also the external malleolar sign, but reference is made to a case where this occurred in the experience of a colleague. Dr. Chaddock adds in a footnote: "Subsequent observations show that even plantar flexion of the toes excited from the external malleolus is as significant as extension or fanning of them; that in cases of unilateral capsular lesions the external malleolar sign often occurs on both sides—on the paralysed side with Babinski, on the unparalysed side without Babinski (homologous motor fibres). It has been found pure and unilaterally in two cases of cerebro-spinal meningitis (epidemic) and in a case of tuberculous cerebro-spinal meningitis. It has been found in one case (no nervous lesion apparent) from the ankle where the foot had been dislocated forward creating an arthritis, which suggests some possible relation between this sign and arthritic ankle clonus." All who have had occasion to examine the skin reflexes of the lower extremity must have observed how frequently an extensor response is obtainable in pathological cases from other parts of the foot than the sole. Dr. Chaddock considers, however, that he has found a definite specificity in the external malleolar area, and the observation is peculiarly interesting and worthy of investigation. If it be shown, as the author thinks, that flexion of the toes from this area is "as significant as extension or fanning," then the "reflex" is not comparable to the toe phenomenon of Babinski. The significance of its unilateral occurrence in cerebro-spinal meningitis and bilateral occurrence in hemiplegia is not, perhaps, apparent; in the latter instance the homolateral pyramidal fibres are always a variable quantity. Whether the "reflex" bears any relation to stimulation of the extensor brevis digitorum muscle, direct or otherwise, is not referred to by Dr. Chaddock.

PROTEIN HYPERSENSITIVENESS.

AMONG the manifold phases of the problem of infection and morbidity in tuberculosis the phenomenon of protein hypersensitiveness is an interesting one. We have received a copy of a pamphlet of Dr. K. Krause containing the results of investigations which he has made in the Saranac Laboratory for the Study of Tuberculosis. He divides the inquiry into three parts. The first deals with "active sensitization." Dr. Krause concludes that practically any parenteral route by which a quantity of tuberculo-protein can be introduced into the guinea-pig will specifically sensitise the animal. Sensitisation may be obtained with equal facility by way of the peritoneal cavity, the skin, the subcutaneous tissue, the cerebral subdural space, and (although he did not try the method) possibly by intravenous injection. He found that sensitisation can be produced with an amount of tuberculo-protein that is represented by 0·00005 gramme dry weight. He gives details of his experiments which will prove interesting to those versed in laboratory methods. The second part of the investigation deals with the relation of tuberculo-protein hypersensitiveness to the tuberculin reaction and to tuberculin immunity. His experiments led him to two conclusions—(1) once sensitiveness to tuberculo-protein is acquired by a non-tuberculous animal the repeated absorption of more protein tends only to increase this condition; and (2) tolerance to tuberculo-protein cannot be attained in the non-tuberculous animal by gradually raising the dosage or diminishing the intervals of time between doses. Dr. Krause's remarks on these two points are involved, but, if they are followed, will prove of value to other observers. The third subject dealt with in this pamphlet is hypersensitiveness

to tuberculo-protein and immunity to infection. After giving details of the investigations the following conclusions are reached:—1. Sensitisation of non-tuberculous guinea-pigs with tuberculous protein does not alter their resistance to experimental tuberculous infection. 2. Sensitisation to tuberculo-protein and relative immunity (increased resistance) to infection can occur coincidently in the same animals. 3. Resistance to infection is markedly lowered during the period that a sensitised animal is suffering from symptoms of anaphylactic shock. In order to fully appreciate the value of these investigations a study of the whole of Dr. Krause's remarks are necessary, but we have sufficiently indicated the nature of the work he has accomplished. The treatment of tuberculosis by tuberculin and similar products has lately attracted much attention, and any fresh information is to be welcomed.

THE CHOLERA EPIDEMIC.

(FROM THE BRITISH DELEGATE TO THE CONSTANTINOPLE BOARD OF HEALTH.)

SINCE the date of my last letter on this subject[1] there has been a considerable extension of the cholera epidemic. It is most seriously prevalent at this moment in various parts of the Turkish Empire and in southern Italy. Russia has so far not suffered to anything like the same extent as at a corresponding date in preceding years; indeed, the extent of the recrudescence of the disease there is almost insignificant. Sporadic cases of cholera are reported from Austria, Hungary, France, Bulgaria, Montenegro, and Persia, but in none of these countries is there any sign of an epidemic.

Cholera in Russia.

Between June 6th and 20th (Old Style) 14 cases of cholera with 1 death were reported to have occurred in the town of Nikolaievsk, in the Samara government; 1 death in the government of Vitebsk; and 1 case at Kozmodemiansk in that of Kazan. On June 25th there was a case in Baku; on the 26th 3 cases at Nikolaieff (apparently in the Kherson government); and between June 26th and July 1st (all these dates are Old Style) there were 17 cases of cholera and 5 deaths in the towns of Novorossiisk, Baku, Nikolaieff, Astrakhan, and Tsaritsyn. Finally, between July 3rd and 9th 18 cases and 5 deaths were recorded in the governments of Kherson, Samara and Astrakhan, and in the town of Saratof.

It would almost look as though the virulence of the cholera germ, which has caused such widespread havoc in Russia in the last few years, were becoming exhausted; but time alone can show whether this surmise is not too good to be true.

Cholera in the Turkish Empire.

Cholera reappeared in Samsoun, on the Black Sea (whence no cases had been reported since November last), on May 28th. Since then the returns have been as follows:—

From	May	28th	to	June	2nd	...	...	77 cases,	45 deaths.
,,	June	3rd	,,		10th	...	...	90 ,,	112 ,,
,,	,,	11th	,,		18th	...	...	33 ,,	30 ,,
,,	,,	19th	,,		25th	...	...	12 ,,	8 ,,
,,	,,	26th	to	July	2nd	...	...	3 ,,	3 ,,
,,	July	3rd	,,		9th	...	...	3 ,,	1 ,,
,,	,,	10th	,,		16th	...	...	1 ,,	1 ,,
,,	,,	17th	,,		23rd	...	...	4 ,,	2 ,,
,,	,,	24th	,,		30th	...	...	2 ,,	2 ,,

It is interesting to note that the earliest cases here occurred among labourers employed on the railway which is being constructed from Samsoun to Sivas. These men were encamped on a spot lying between the river Merd-Irmak and a canal, and between the latter and the aqueduct which carries the river water to be distributed to the town. They seem to have contaminated this water, and there was thus a sudden and general extension of the disease throughout the town. As soon as this water-supply was cut off and other measures taken to stamp out the disease among the labourers in question, the cases in the town fell suddenly from a maximum of 27 in one day to 2 or 3 per day.

On July 1st cholera reappeared in the neighbourhood of Zunguldak (near which are large and important coal mines); up to July 30th some 21 cases with 11 deaths have been recorded here. In Smyrna, where, it will be recalled, cholera reappeared on April 26th, the following cases and deaths have been registered:—

From	April	26th	to	May	14th	...	...	9 cases,	7 deaths.
,,	May	15th	,,		21st	...	...	2 ,,	0 ,,
,,	,,	22nd	,,		28th	...	...	13 ,,	7 ,,
,,	,,	29th	to	June	4th	...	...	11 ,,	5 ,,
,,	June	5th	,,		12th	...	...	2 ,,	2 ,,
,,	,,	12th	,,		18th	...	...	43 ,,	18 ,,
,,	,,	19th	,,		25th	...	...	19 ,,	16 ,,
,,	,,	26th	to	July	2nd	...	...	40 ,,	22 ,,
,,	July	3rd	,,		9th	...	...	46 ,,	39 ,,
,,	,,	10th	,,		16th	...	...	19 ,,	7 ,,
,,	,,	17th	,,		23rd	...	...	20 ,,	13 ,,
,,	,,	24th	,,		30th	...	...	27 ,,	18 ,,

The totals here are placed at 251 cases, with 156 deaths.

Information respecting the epidemic in the interior of Asia Minor is lacking in completeness, but there have been outbreaks of greater or less severity in a large number of places. In the western portion of the peninsula the disease has been most active in various villages near the Dardanelles, at Kutaia, Broussa, Moudania, Panderma, Eski-Shehir, Simav, Seraikeui, Merzifun, Denizli, and elsewhere. In the eastern portion it has been present in Sivas, Tokat, Yuzghat, and some other places. In none, however, does it appear to have caused, as yet, a very high mortality.

The disease has also spread to the vilayets of Bagdad and Basra. In the former there were 7 cases and 6 deaths in Bagdad itself between July 11th and 30th; 21 cases and 14 deaths at Amara between May 29th and July 25th; 2 cases in the neighbourhood of Amara between July 10th and 25th; 80 cases and 76 deaths at Medjri Kebir from July 3rd to 12th; 23 cases and 14 deaths at Medjri Saghir from July 3rd to 12th; 8 cases and 3 deaths at Kemit between July 10th and 17th; and 1 fatal case at Decas on July 12th. All these places are on or near the Tigris. The totals in the Bagdad vilayet are put at 142 cases, with 114 deaths. In the Basra vilayet 76 cases, with 49 deaths, were recorded between June 8th and July 29th; of these, 69 cases and 44 deaths occurred at Basra itself between July 17th and 29th, and 7 cases with 5 deaths at Ozeir between June 8th and 13th. Ozeir, it should be added, is a centre of pilgrimage for the Jewish inhabitants of Mesopotamia and elsewhere, as the prophet Ezra is buried here (whence the name of Ozeir). It was among such pilgrims that the cases of cholera occurred. There have been no further cases since the dates mentioned.

In European Turkey the revival of cholera has so far been almost confined to Constantinople itself. The principal exception, an important one in view of the actual situation on the Montenegrin border, is the appearance of the disease at Ipek, in northern Albania. Between July 10th and 13th 17 cases and 32 deaths were reported there; between the 14th and 16th there were 10 cases and 15 deaths; between the 16th and 18th 39 cases and 36 deaths; on the 20th 30 deaths; and on the 21st and 22nd 58 deaths. (These dates are Old Style dates.) There have also been several cases at Diakova in the same region.

In Constantinople itself cholera reappeared at the end of May. It seems to have been imported from the Black Sea coast, and some of the earliest cases occurred among persons who had arrived in the capital by steamers which had called at Samsoun, where, as shown above, cholera was already prevalent. The following official figures have since been published:—

From	May	21st	to	July	11th	...	...	21 cases,	13 deaths.
,,	July	11th	,,		17th	...	...	9 ,,	4 ,,
,,	,,	18th	,,		24th	...	...	20 ,,	7 ,,
,,	,,	25th	,,		31st	...	...	132 ,,	69 ,,
,,	August	1st	to	August	7th	...	...	181 ,,	100 ,,

A certain number of these cases have occurred among the troops garrisoning the capital; but the majority have been among the civil population. It will be recalled that the disease was largely spread last autumn by the movements of troops in different parts of the country; but greater precautions have been taken in the present outbreak. As was

[1] THE LANCET, May 27th, p. 1459.

the case last year, the infection seems to be widely spread in all parts of Constantinople and some of the neighbouring villages on the Bosphorus.

Cholera still prevails more or less in the Yemen, but it is difficult to obtain exact information as to its extent. It is certain that it was epidemic in several places in the interior in May and June; among others at Zeidieh, Badjil, Harounieh, Cournieh, &c. Some cases also occurred in June at Salif (nearly opposite to Camaran), where there are extensive salt works, the property of the Public Debt Administration. At Confudah, a port of some importance, 50 cases, with 39 deaths, were registered between May 21st and 25th. At Hodeidah, the principal port of the Yemen, the disease has prevailed intermittently. Early in June a regiment arrived here from Sanaa, the capital of the Yemen, and in the course of about ten days no less than 116 cases of cholera, with 63 deaths, are stated to have occurred among the men. The infection spread to some extent to the general population, but did not apparently cause an epidemic. Other infected regiments and transports have arrived at the Camaran lazaret, where they have undergone disinfection and quarantines of various lengths. In the village of Camaran itself a few cases have also occurred, but most of these seem to have been imported from the mainland. The pilgrim season has now begun, and pilgrim ships are constantly arriving at the Camaran lazaret. So far, fortunately, the pilgrims have escaped the disease here.

Cholera in Italy.

On June 9th the presence of cholera in Italy was first notified; 2 cases were then stated to have occurred at Serrastretta and 1 at Lungro between June 1st and 5th. It is said that the infection was imported to Italy by emigrants from Asia Minor and Constantinople, passing through Italy on their way to America. For some time before the official notification was made large numbers of cases of gastro-enteritis were observed at Naples and elsewhere, and the presence of cholera was widely rumoured before it was officially declared. In Naples 7 cases and 3 deaths from cholera were stated to have occurred between June 11th and 15th; the numbers rapidly rose, and early in July some 30 or 40 cases were being registered daily. In the province of Naples, also, the disease soon became epidemic, as also in those of Caserta, Salerno, and Palermo, while later cases in small numbers were reported from the provinces of Avellino, Campobasso, Caltanisetta, Messina, Livorno, Trapani, and Rome (1 case at Civita Vecchia). The town and province of Palermo, in Sicily, have also become infected, and the figures here have been considerable. At Palermo several cases occurred in the local lunatic asylum. The rumoured appearance of the disease at Venice was subsequently denied. This year's epidemic in Italy bears many points of resemblance to that of last year.

Cholera in Austria-Hungary.

In June an imported case of cholera was declared to have occurred at Graz (as already reported by your Vienna correspondent, THE LANCET, June 24th, p. 1735). On June 6th a suspected case was seen on a ship arriving at Trieste from Naples. On July 17th two suspected cases were reported from the provinces of Weissenberg and Abonj, but these were later stated not to have been cholera. On July 9th a clockmaker in Trieste died from Asiatic cholera, and several other cases subsequently occurred here. Early in July the disease appeared at Skaljari, near Cattaro, on the Adriatic. In an official statement issued by the Austrian Ministry of the Interior on July 24th it is declared that since May 24th (the date apparently of the first case in Graz) 17 cases of cholera with 10 deaths had occurred in Austria; of these, 2 occurred at Graz, 11 at Trieste, and 4 at Cattaro. The latest news from Trieste shows that fresh cases are still developing there.

Cholera in France.

Eight cases of cholera are reported to have occurred at Marseilles. Some of these were imported; but at least 4 appear to have been of indigenous origin. None have occurred since July 20th.

Cholera in Bulgaria.

So far as is known the only case of cholera that has been seen in Bulgaria was one which was reported on July 16th as having occurred in the village of Kaludjik, near to Shumna.

Cholera in Montenegro.

At the end of July the appearance of cholera in Cettinjé was officially reported. One confirmed case and one suspected case were observed there on July 29th.

Cholera in Persia.

Up to the present the only occurrence of cholera reported from Persian territory has been that of 2 fatal cases of the disease at Mohammerah, on the Shatt-el-Arab, below Basra. Both occurred in the week ending July 29th.

Constantinople, August 7th.

REPORT ON EGYPT AND THE SOUDAN IN 1910.[1]

THIS annual report takes up the parable of events in Egypt from the dastardly assassination of the Coptic Prime Minister, Boutros Pasha, and the strained relations which ensued between the Muhammedan and Coptic Egyptians. The ill-judged and obviously premature attempts to conciliate the Nationalist party by giving additional powers and responsibility to the native officials at the expense of the good government of the country led to much discontent among the European officials, and culminated in the official pronouncement in the House of Commons that there can be no hope of further progress in Egypt until the political agitation against the British occupation has ceased. Those who desire to see Egypt ruled by the Egyptians must be made to understand that that time has not yet arrived and is not within sight, for it is idle to talk of that country being governed by really representative institutions so long as only 600,000 of the population of 11,000,000 can read and write. The patriots who clamour unceasingly for the removal of English rule and profess that they themselves are competent to administer their country would do better to utilise their influence in the direction of extending the boon of education to their own brethren. In Egypt's long history there have been but few occasions when the natives of the land have not lived under foreign sway, but if now they are to rule themselves it is surely not too much to ask as a preliminary that the majority should be able to read and write their own tongue.

Among the increased ordinary expenditure of the current year there is a sum of rather more than £15,000 voted to the Public Health Department, chiefly due to the approaching completion of the new lunatic asylum at Khanka, near Cairo; this asylum will be opened this year with 240 beds and will be gradually extended to 1000 beds, thus providing eventually asylum accommodation for 2150 insane persons in the two institutions. A grant of £10,000 has also been made for the rebuilding of the Government hospital at Kena in Upper Egypt, for the present hospital is in unsuitable, insanitary premises above the elementary school, and reconstruction is badly needed. A grant of £15,000 has also been provided for an addition to the Cairo Infectious Hospital, well situated in the desert, so that in future paying patients may be admitted. Europeans and others suffering from small-pox, measles, diphtheria, or typhus have now to be nursed at home or are admitted to a small block attached to the German Hospital in the town.

During last year 57,000 cattle were treated with serum against cattle plague with a total death-rate of 1·8 per 1000; this measure is now popular among the peasants. The mortality among the average prison population of nearly 13,000 is only 1·4 per 1000, and there were during the year only 16 deaths from infectious diseases. It has been decided to substitute bread made from maize instead of wheaten bread in all the prisons, and so effect an economy of about £10,000 a year. Evidently there is no official belief in the view that this change of diet may increase the cases of pellagra among the prisoners.

The total number of Egyptian pilgrims who went to the Hedjaz amounted to 17,500, besides an almost equal number of foreigners who passed through Egypt on their way to Mecca. Of the Egyptian pilgrims, 45 contracted cholera and 32 died, but the disease was arrested at the quarantine stations and failed to get an entrance into Egypt, in spite of menace from Russia, Italy, Tripoli, Asia Minor, and the Red Sea. The long-deferred rebuilding of Kasr-el-Aini Hospital

[1] The late Sir E. Gorst's Report on Egypt and the Soudan in 1910. London. 1911. Pp. 96. Price 10*d*.

is definitely promised in this report "as soon as the necessary financial provision can be made." Every important medical visitor to Cairo of recent years has urged the need of this step, and it is to be hoped that the authorities will no longer delay. Bubonic plague in Lower Egypt and pneumonic plague in Upper Egypt have both established a firm foothold, so that in 1910 there were 1397 certified cases, compared with 522 cases during the year 1909.

The dispensaries and societies which are trying to combat infant mortality are continuing to instil into the poorest mothers some of the elementary principles of care and cleanliness, and are beset with crowds of patients both in Cairo and in Minia.

The School of Medicine continues to flourish, and now includes 220 students, having quadrupled its numbers during the last 12 years. Several junior posts on the teaching staff have recently been filled by Egyptians who were sent to England to complete their education. There are now 59 students training in various subjects in Europe, mostly in England, besides a considerable number of others who migrate on their own account, for whom the Egyptian Government is in no way responsible.

The Egyptian army was called upon on no less than 15 occasions to operate against tribal foes in the Soudan or to support the civil power. The patrols called out had to fight in desert, mountain, bush, and high grass against fanatical Arabs, savages armed only with spear and bow, and sometimes Nubia hillmen, furnished with firearms, which they use with dangerous precision. It is satisfactory to note that malaria has claimed fewer deaths among the soldiers, and that two malarious districts, Kassala and El Obeid, are markedly healthier. The latter ought to be reached next year by the railway, which is being laid south of Khartum, and has already justified its existence financially, while the Abyssinians have expressed a desire for improved telegraphic and trade communications on their frontier. With internal peace, an increasing population, satisfactory public health, and promising trade the Soudan now seems to stand at the threshold of a new era. On the other hand, the telegraph department complains pathetically that communication was interrupted 30 times during the year by elephants, giraffes, and hippopotami!

With the exception of a small outbreak of diphtheria south of Dueim, there was no epidemic of infectious disease in the Soudan during the year. The most important event of 1910 was the re-occupation of the Lado Enclave by the Soudan Government on the death of King Leopold II. of Belgium. This has thrown on the Government the responsibility of administering an area of 17,000 square miles, or about twice the size of Lower Egypt, with a population, mostly of savage tribes, estimated at 50,000. The new territory is well stocked with elephants, but the country is not yet open to shooting parties, partly because of the sleeping sickness, which is a portion of our inheritance from the Belgians. Prompt measures have already been taken to confine this scourge to certain districts of the Lado Enclave, and to prevent its spreading to other parts. During 1910 sleeping sickness made its first appearance in the Soudan, two cases being discovered at Raga and one doubtful case at Wau, among natives who had recently arrived from the French Congo.

Two British medical officers have been detailed to study kala-azar in the Eastern Soudan, where they find that most of the cases are sporadic and occur in males under 20 years of age. The work of Dr. A. Balfour and his colleagues at Gordon College is hardly mentioned in this report, on the grounds that their fourth report is now forthcoming, for which the world of medical science is again indebted to the generosity of Mr. H. S. Wellcome.

It is difficult to close this appreciation without recording our hope that the new Agent and Consul-General in Egypt, Viscount Kitchener, who goes to his task next month in closer touch with scientific and bacteriological knowledge than any of his predecessors, will add fresh lustre to his name by supporting endeavours to rid Egypt and the Soudan from many forms of epidemic and endemic disease.

THE Archbishop of York has accepted the office of President of the Twenty-seventh Congress of the Royal Sanitary Institute, which will be held in York in July, 1912.

ASYLUM REPORTS.

Norfolk County Asylum (Annual Report for the Year 1910).—The chief event of the year in the history of this asylum has been the opening of the nurses' home. The home has been erected at a cost of £134 per bed and has the commendation of the Commissioners in Lunacy. It is entirely separate from the asylum and is of different architecture, the idea being that nurses when off duty should enjoy surroundings altogether different from those of their work. To judge from the description of the home, from an accompanying illustration, and from its plans the nurses should be very comfortable in their new quarters. The daily average number resident at the asylum was 1017. The total admissions for the year were 236, of which number 107 were men and 129 women. This is a record number in the history of the asylum. Hereditary defect was ascertained in 40 per cent. of the cases, mental stress in 22 per cent., and intemperance in 4 per cent. There were discharged 100 persons, and of these 66 were recoveries, a rate of 30 per cent. on the admissions. Deaths numbered 117, being 11·50 per cent. on the daily average number resident. Deaths from consumption and senile decay each gave a percentage of 17 of the total number of deaths, while general paralysis accounted for 9·4 per cent. Post-mortem examinations were made in 76 per cent. of the deaths.

County Borough of Leicester Asylum at West Humberstone (Annual Report for the Year 1910).—At this asylum the average number resident was 727. The admissions numbered 191, and among these 24 were ascribed to heredity, 23 to intemperance, and 42 to mental stress. The discharges numbered 49, the percentage of recoveries on the admissions being 32·28. There were 65 deaths, the rate of mortality estimated upon the average number resident being 8·9. Of the 788 patients remaining in the asylum at the end of the year only 29 were deemed curable.

Kesteven (Lincolnshire) County Asylum (Annual Report for the Year 1910).—The average daily number on the registers of this asylum was 430. There were admitted 78 cases; of these, 18 only were in a good state of bodily health, while 34 were considered in fair health and 26 as feeble or much run down. In 50 per cent. of those admitted a hereditary predisposition was ascertained, and in 20 per cent. some stress, either sudden or prolonged, was given as the cause of the attack. Twenty-four patients were discharged, of whom 18 had recovered. Twenty-nine patients died, giving a rate calculated on the average number resident of 6·74 per cent. Post-mortem examinations were held in 80 per cent. of the deaths. The Commissioners report that on inquiring into the temperature of the water in which patients are bathed one attendant informed them that he bathed his patients in water at 94°, another at 60°, and a third at 100°. The Commissioners draw the moral that bathing regulations should be framed and hung up in every bathroom.

Sunderland Borough Asylum (Annual Report for the Year 1910).—The average number resident at this asylum was 400, or 14 more than in the previous year. 111 patients were admitted. Among the exciting causes of mental breakdown alcohol still keeps its place. Another exciting cause which figures high in the list is adolescence. Dr. J. Middlemass, the medical superintendent, points out the extreme risk which the children of recovered patients of this latter class run. He is of opinion that in at least half the cases sent to the asylum there is an inherited constitutional tendency to an attack of insanity. While much can be done by care to avoid those causes which are known to operate towards developing the latent weakness, it is becoming recognised that something potent in the form of enlarging the present powers of detention will have to be adopted. It is reasonable to suppose that if the causal factor of heredity could be arrested the amount of insanity would in a generation or two be reduced to much smaller proportions. Sixty-five patients were discharged, and of these 50 had recovered, the rate being 45 per cent. on those admitted. The deaths numbered 36, the percentage of deaths on the admissions was 32·4, on the average number resident 9·0, and on the total number under treatment 7 1. In every case a post-mortem examination was held. A verandah for treatment has been erected and has been found

useful for mental symptoms as well as for those of pulmonary tuberculosis.

Royal Edinburgh Asylum at Morningside (Annual Report for the Year 1910).—The average number resident during the year at this asylum was 752. The total number of admissions was 195. Alcoholic excess appears to have existed as an etiological factor in 12·3 per cent. of the admissions. Among males the percentage of so-called alcoholic insanity was less than it has ever been before, although among females it has steadily risen during the last three years, and last year was 11·2 of the total admissions of women. Dr. G. M. Robertson, the physician-superintendent, notes that, in spite of the acute political excitement of recent years, no cases can be attributed to it. "Judging by their effects on the brain of the ordinary man, the interest taken in politics, and the disturbance it produces, must both be of the most shallow and superficial nature." Seventy patients were discharged recovered and 59 unrecovered, the recovery rate being 36 per cent. of the total number of admissions. The deaths numbered 60, which is 8 per cent. of the average number resident. Post-mortem examinations were made in 36 instances. In administrative matters Dr. Robertson has endeavoured to remove all features peculiar to asylums and to convert the institution into a hospital for the treatment of a special disease. Insanity is very frequently associated with physical exhaustion, and its treatment should therefore be conducted by a staff and by methods similar to those employed for the treatment of other diseases.

Brighton County Borough Asylum at Haywards Heath (Annual Report for the Year 1910).—The average daily number resident was 842. Admissions numbered 259, of whom 117 were males and 142 were females. Ninety persons were discharged, of whom 35 were males and 55 were females. Of the males 17 had recovered, being a percentage of 30·4 on the admissions. Of the females 26 had recovered, being a percentage of 31·7 on the admissions. The deaths numbered 51, the rate on the average daily number resident being 6·1 per cent. The mean age at death for both sexes was 58·7 years—for males 55·0, and for females 61·8. In only 50 per cent. of the deaths were post-mortem examinations held.

Cumberland and Westmorland Lunatic Asylum (Annual Report for the Year 1910).—The daily average number of patients resident at this asylum during 1910 was 853. 179 patients were admitted, of whom 174 were direct admissions. Twenty-eight of those admitted had been previously treated in the asylum, and 24 of these had recovered at the time of their last discharge. The average time these had remained away from the asylum was 4 years 11½ months. In causation, heredity was the commonest factor and was ascertained in 38 cases, or, including epileptic heredity, in 41 cases. Alcoholic excess was a factor in 21 cases, and mental stress preceded the attack in 16 cases. Discharges numbered 105, there being 68 recovered, 20 relieved, and 17 not improved. The recovery rate on the direct admissions was 39·1 per cent. Of the recovered, 17 were at the asylum for less than three months, 23 from three to six months, 6 from six to nine months, and 11 for more than a year. Fifty-three of those who recovered were brought to the asylum within three months of the onset of the attack. Dr. W. F. Farquharson, the medical superintendent, points out that the earlier a patient is brought under treatment, removed to a new environment where he can have the services of specially trained nurses, and withdrawn from the well-meant attention of relatives and neighbours, the more speedily does recovery take place. Seventy-eight patients died during the year and the rate, calculated on the daily average number of patients resident, was 9·1 per cent. In every case a post-mortem examination was made.

THE BRITISH FIRE PREVENTION COMMITTEE.—A special commission of officers of this committee has left London for Paris to study the fire preventive and fire service arrangements of the French capital and its suburbs. The commission, for whom an extensive programme of work has been prepared by the French Government, comprises the chairman, Mr. Edwin O. Sachs, Mr. Ellis Marsland (honorary secretary), Mr. Horace Folker (honorary treasurer), Lord Londesborough, Mr. H. Dyer, Mr. Percy Collins, Lieutenant Spencer, R.N., and Mr. Boyce-Podmore.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

Bombay.—According to the report on public health administration in Bombay for 1910, presented by Dr. J. A. Turner, the executive health officer, there has been a notable improvement in respect to the mortality from plague, cholera, and phthisis, though a slight increase has occurred in the number of deaths under the heads of small-pox, measles, fevers, diarrhœal and respiratory diseases. The total number of deaths was 34,933, giving a death-rate of 35·72 per 1000 on a population of 977,822; this was the number of inhabitants as determined by the census of 1906, and no correction has been applied for any increase in the five years that have since elapsed. After deducting deaths of new arrivals, and adding deaths in sanatoriums outside the city of persons belonging to Bombay, the corrected death-rate is 35·13 per 1000. The actual number of deaths is, indeed, smaller than in any year during the past decade, with one exception, the main cause being decrease in plague mortality. Out of the total ratio of 35·72, the most important item is that of respiratory diseases, causing 8·39, compared with a ratio of 10·30 for 1900–1909; plague caused 3·73, a notable reduction on 14·17, the decennial average; fevers accounted for only 3·18, also a satisfactory figure compared with 5·37 for the decennium; phthisis (2·33) and diarrhœa (2·20) were also less fatal. The zymotic death-rate of 9·89 compares favourably with that of the preceding three years (11·90), and still more with that of the decennium (24·33). There was a considerable increase in small-pox and measles over the preceding year, but variations from year to year are of small consequence unless maintained. Amongst the variety of races inhabiting Bombay a considerable difference exists in regard to mortality ratios; compared with the general rate of 35·72, we find for Mussulmans it was 51·10, for native Christians 48·73, and for Jews 36·33; while for Eurasians it was 32·47, Buddhists 31·69, Hindus 32·41, and for Parsis only 27·30. The European ratio of 18·50 is obviously hardly comparable, as the conditions of life here are so different. The high mortality among Mussulmans (chiefly from phthisis, respiratory and nervous diseases) is ascribed to their density of population, their ill-ventilated houses, and the *purdah* system of seclusion for their women. Native Christians suffered especially from fevers, diarrhœal and respiratory diseases, and small-pox. The most noticeable feature of the public health during the year was the reduction of plague mortality to 3·73 per 1000, the lowest ratio since 1896; the disease has not decreased in virulence, as the case-mortality stands at 88·52 per cent., a figure exceeded in three years only since 1896. March, April, and May were the months of chief incidence (915 deaths in April); in December there were only 32 deaths. Small-pox was epidemic from February to May, its spread as usual having been aided by continual importations from outside, especially by pilgrims returning from Jeddah. Arrangements have now been made to vaccinate pilgrims, when possible, before leaving India for Mecca, and a specially trained nurse has been deputed to vaccinate females. Great benefit will doubtless result from this important step in advance. A great deal of anti-malarial work has been carried out, in the way of inspection of wells, applying pesterine, and in some instances filling in or closing them; stocking with small fish to eat the larvæ has been tried, but without success, though further trials are to be made. The matter is a difficult one to deal with as religious prejudices in many cases come in the way. Malarial fever accounted for 293 deaths, a ratio of 0·29 per 1000, being slightly in excess of the quinquennial average (0·26).[1] Among the chief administrative measures undertaken were anti-plague inoculations, of which 5043 were performed; the destruction of more than half a million rats; and the formation of semi-permanent health camps. Dr. Turner advises the municipality to erect suitable refuse destructors; the rapid disposal of town sweepings is of the greatest importance in eastern cities, and there can be no doubt that Bombay would be well advised to adopt this method. Motor vans for the removal of town refuse

[1] In addition 2630 deaths are returned under "Ague and Remittent Fever." What are these, if not malarial? And what does "malarial fever" include without them?

have been introduced with satisfactory results, being actually less expensive to work than the old bullock carts. We regret to learn that, in spite of all that has been written and said within the last few years about town planning, great numbers of new buildings are being erected in the northern part of Bombay in a crowded and insanitary manner, and without proper means of access. No protest has been made apparently against the erection of such buildings on land which is not properly laid out. Bombay is now the third city under British rule in point of population; its health conditions are a matter of imperial interest. Dr. Turner has a very difficult task, and we wish every success to his strenuous efforts for the public good.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 77 of the largest English towns 7072 births and 5770 deaths were registered during the week ending August 12th. The revised estimate of the population of these towns in the middle of this year is 16,157,797 persons. The annual rate of mortality in these towns, calculated on this revised estimate, which had been increased from 11·8 to 15·9 per 1000 in the four preceding weeks, further rose to 18·6 in the week under notice. During the first six weeks of the current quarter the annual death-rate in these towns averaged 14·0 per 1000, while in London during the same period the mean annual death-rate did not exceed 13·6 per 1000. The recorded annual death-rates in the 77 towns last week ranged from 7·3 in Barrow-in-Furness, 8·0 in Stockton-on-Tees, 8·9 in King's Norton, and 9·2 in Bournemouth, to 26·4 in Aston Manor, 28·0 in Stoke-on-Trent and in St. Helens, 29·7 in West Bromwich, and 38·1 in Dewsbury. The 5770 deaths from all causes in the 77 towns last week exceeded the number recorded in the previous week by no fewer than 830, and with one exception was the highest number recorded in any week during the current year. These 5770 deaths from all causes included 2103 which were referred to the principal epidemic diseases, against numbers increasing from 268 to 1340 in the six preceding weeks, and included no fewer than 1927 from infantile diarrhœa, 60 from whooping-cough, 50 from measles, 24 from diphtheria, 23 from scarlet fever, and 19 from enteric fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases was equal to 6·8 per 1000, against 2·3 and 4·3 in the two preceding weeks. The deaths of infants under two years of age attributed to diarrhœal diseases in the 77 towns, which had increased from 70 to 1168 in the six preceding weeks, further rose last week to 1927, and caused the highest annual rates of 11·7 in Wigan and in Dewsbury, 12·2 in West Bromwich, 12·4 in West Ham, 13·1 in Stoke-on-Trent, 14·0 in St. Helens, and 16·0 in Aston Manor. The deaths referred to whooping-cough, which had increased from 43 to 57 in the four preceding weeks, further rose last week to 60; 26 deaths were registered in London and its suburban districts, 4 in Liverpool, 3 in Leeds, and 3 in Cardiff. The fatal cases of measles numbered 50, and were 3 less than the number returned in the previous week; 15 deaths were recorded in London and its suburban districts, 4 in Liverpool, and 3 each in Wolverhampton, Nottingham, Manchester, and Salford. The deaths from diphtheria, which averaged 41 in the three preceding weeks, declined last week to 24, and included 9 in London and its suburban districts, 3 in Sheffield, and 2 each in Stoke-on-Trent, Salford, and Bradford. The 23 deaths referred to scarlet fever were 9 in excess of the number in the preceding week, and included 7 in London and its suburban districts, 5 in Liverpool, 2 in Birmingham, and 2 in Coventry. The deaths attributed to enteric fever, which had been 11, 11, and 8 in the three preceding weeks, rose to 19 last week, and included 5 in London, 2 in Bradford, and 2 in Leeds. The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had steadily increased from 982 to 1433 in the 17 preceding weeks, had further increased to 1442 on Saturday last; 159 new cases of this disease were admitted to these hospitals during the week, against 199, 209, and 191 in the three previous weeks. These hospitals also contained at the end of last week 823 cases of diphtheria, 256 of whooping-cough, 238 of measles, and 38 of enteric fever, but not one of small-pox. The 1619 deaths from all causes in London last week showed an increase of 275 upon the number returned in the previous week, and included 90 which were referred to diseases of the respiratory system, against 115 and 91 in the two previous weeks. The deaths attributed to different forms of violence in the 77 towns, which had been 173 and 223 in the two preceding weeks, declined to 162 last week, and 373 inquest cases were registered. The causes of 26, or 0·5 per cent., of the deaths registered in the 77 towns during the week under notice were not certified either by a registered medical practitioner or by a coroner. All the causes of death last week were duly certified in Manchester, Sheffield, Leeds, Bristol, West Ham, Bradford, Hull, Nottingham, and in 52 other smaller towns; the 26 uncertified causes of death last week included 6 in Birmingham, 4 in Liverpool, and 2 in Grimsby.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns, having an estimated population of 1,710,291 persons in the middle of this year, 793 births and 471 deaths were registered during the week ending August 12th. The annual rate of mortality in these towns, which had been equal to 14 9 and 13·8 per 1000 in the two preceding weeks, rose to 14·4 last week, and was equal to the mean rate in these towns during the first six weeks of the current quarter, but was 0·4 per 1000 above the mean death-rate during the same period in the 77 large English towns. The annual death-rates in the Scotch towns last week ranged from 12·2 and 12·5 in Edinburgh and Aberdeen to 16·0 in Perth and 21·5 in Greenock. The 471 deaths from all causes in the eight towns last week were 19 in excess of the number in the previous week, and included 99 which were referred to the principal epidemic diseases, against 73 and 62 in the two preceding weeks; of these 99 deaths, 70 resulted from diarrhœa, 11 from measles, 9 from whooping-cough, 5 from diphtheria, 2 from enteric fever, 1 from scarlet fever, and 1 from small-pox. The mean annual death-rate from these epidemic diseases in the eight towns last week was equal to 3·0 per 1000, the mean rate last week from the same diseases in the 77 English towns having been 6·8. The deaths from diarrhœa, which had been 40 and 33 in the two preceding weeks, rose last week to 70, and included 59 of infants under two years of age; 49 deaths occurred in Glasgow, 6 in Edinburgh, and 6 in Greenock. The 11 deaths referred to measles were equal to the number in the previous week, and included 4 in Glasgow, 3 in Aberdeen, and 3 in Leith. The 9 fatal cases of whooping-cough were 2 in excess of the number returned in the preceding week, and included 5 in Glasgow and 3 in Paisley. The 5 deaths attributed to diphtheria were equal to the average in the three preceding weeks, and included 2 in Glasgow. The fatal cases of enteric fever were registered in Glasgow and Edinburgh, that of scarlet fever in Glasgow, and that of small-pox in Dundee. The deaths referred to diseases of the respiratory system in the eight towns, which had been 48 and 32 in the two preceding weeks, rose to 39 last week, but was 8 below the number in the corresponding week of last year. Of the 471 deaths from all causes in the eight towns last week, 143, or 30 per cent., were recorded in public institutions, and 22 were attributed to different forms of violence. The causes of 13, or 2·8 per cent., of the deaths in the eight towns last week were not specified or not certified; in the 77 English towns the proportion of uncertified causes of death during the week did not exceed 0·5 per cent.

HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an estimated population of 1,149,495 persons in the middle of this year, 595 births and 377 deaths were registered during the week ending August 12th. The annual rate of mortality in these towns, which had been 16·8, 16·4, and 16·8 per 1000 in the three preceding weeks, rose to 17·1 per 1000 in the week under notice. During the first six weeks of the current quarter the annual death-rate in these towns averaged 16·3, whilst the mean rate during the same period did not

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JULY, 1911.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1911.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.‡									Deaths from all causes.	Death-rate per 1000 living.†
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.		
LONDON	4,522,628	—	857	550	—	57	—	16	271	6	1757	5·1	—	71	16	37	36	4	276	440	1·3	4105	12·4
West Districts.																							
Paddington	142,541	—	13	12	—	3	—	1	10	—	39	3·6	—		—	1	—	2	4	8	0·7	130	12·7
Kensington	172,296	—	25	19	—	1	—	1	8	—	54	4·1	—	1	—	—	2	—	7	10	0·8	149	12·2
Hammersmith	121,837	—	18	16	—	2	—	—	11	—	47	5·0	—	—	—	1	2	—	4	7	0·7	106	11·8
Fulham	153,726	—	39	18	—	5	—	—	2	—	64	5·4	—	—	1	1	1	1	10	14	1·2	136	12·0
Chelsea	66,218	—	12	10	—	1	—	1	2	—	26	5·1	—	3	—	—	—	—	4	7	1·4	61	12·4
City of Westminster	159,709	—	27	11	—	4	—	—	4	—	46	3·8	—	2	—	—	3	—	4	9	0·7	143	13·1
North Districts.																							
St. Marylebone	117,844	—	22	9	—	—	—	1	9	—	41	4·5	—	—	1	—	2	—	3	6	0·7	101	11·9
Hampstead	85,599	—	7	15	—	1	—	—	3	—	26	4·0	—	3	—	4	—	—	2	9	1·4	58	9·9
St. Pancras	218,031	—	31	50	—	5	—	—	6	—	92	5·5	—	1	—	5	1	—	22	29	1·7	196	12·2
Islington	327,234	—	63	29	—	3	—	—	19	1	115	4·6	—	4	2	3	2	—	14	25	1·0	279	11·5
Stoke Newington	50,669	—	7	2	—	—	—	—	—	—	9	2·3	—	1	1	—	—	—	2	4	1·0	33	8·9
Hackney	222,674	—	37	25	—	—	—	1	28	—	91	5·3	—	2	—	2	4	—	7	15	0·9	171	10·4
Central Districts.																							
Holborn	49,084	—	30	12	—	1	—	—	4	—	47	12·5	—	—	—	—	—	—	3	3	0·8	47	13·5
Finsbury	87,639	—	17	13	—	1	—	—	14	—	45	6·7	—	1	2	1	—	—	20	24	3·6	123	18·9
City of London	19,475	—	1	1	—	—	—	—	3	—	5	3·3	—	—	—	—	—	—	—	—	—	22	16·2
East Districts.																							
Shoreditch	111,284	—	16	14	—	—	—	1	5	—	36	4·2	—	5	—	1	—	—	18	24	2·8	134	16·5
Bethnal Green	128,247	—	21	14	—	1	—	1	14	—	51	5·2	—	6	—	1	1	—	11	19	1·9	135	13·8
Stepney	279,560	—	42	40	—	1	—	—	32	—	115	5·4	—	17	—	—	2	—	38	57	2·7	338	16·5
Poplar	162,260	—	45	16	—	5	—	1	14	1	82	6·6	—	2	2	3	1	—	13	21	1·7	159	13·2
South Districts.																							
Southwark	191,595	—	57	38	—	—	—	—	14	1	110	7·5	—	5	1	3	2	—	16	27	1·8	206	14·6
Bermondsey	125,840	—	21	22	—	2	—	—	5	—	50	5·2	—	3	1	1	3	—	9	17	1·8	150	15·9
Lambeth	298,032	—	37	26	—	6	—	1	5	—	75	3·3	—	4	—	2	2	1	21	30	1·3	279	12·6
Battersea	167,765	—	13	9	—	3	—	—	8	—	33	2·6	—	4	—	—	3	—	9	16	1·2	128	10·6
Wandsworth	313,389	—	60	34	—	4	—	2	13	1	114	4·7	—	1	2	1	1	—	7	12	0·5	204	9·0
Camberwell	261,407	—	86	27	—	2	—	2	14	2	133	6·6	—	—	1	1	2	—	7	11	0·5	224	11·6
Deptford	109,475	—	17	16	—	4	—	—	8	—	45	5·4	—	—	1	2	1	—	5	9	1·1	102	12·7
Greenwich	95,982	—	44	20	—	—	—	1	7	—	72	9·8	—	2	—	1	1	—	10	14	1·9	97	13·5
Lewisham	161,677	—	15	19	—	1	—	1	5	—	41	3·3	—	1	—	3	—	—	2	6	0·5	100	8·4
Woolwich	121,509	—	34	13	—	1	—	1	3	—	52	5·6	—	2	1	—	—	—	4	7	0·8	94	10·8
Port of London	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup. † The death-rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard. ‡ Deaths from "typhus fever" and "other continued fevers" are not now distinguished in the Registrar-General's weekly returns; these two columns are therefore omitted from the Table.

exceed 14·0 per 1000 in the 77 English towns, and was equal to 14·4 in the eight Scotch towns. The annual death-rate last week was equal to 20·7 in Dublin (against 18·7 in London), 16·3 in Belfast, 9·5 in Cork, 11·5 in Londonderry, 13·6 in Limerick, and 20·9 in Waterford; whilst in the 16 smallest of these Irish towns the mean annual death-rate did not exceed 15·4 per 1000. The 377 deaths from all causes in the 22 Irish towns last week showed an increase of 6 upon the number returned in the previous week, and included 117 which were referred to the principal epidemic diseases, against 87 and 83 in the two preceding weeks; of these 117 deaths, 106 resulted from diarrhœal diseases, 4 from scarlet fever, 3 from enteric fever, 2 from measles, and 2 from whooping-cough, but not one from small-pox or from diphtheria. These 117 deaths from the principal epidemic diseases were equal to an annual death-rate of 5·4 per 1000, the mean rate from the same diseases in the 77 English towns was equal to 6·8 per 1000, whilst in the eight Scotch towns it did not exceed 3·0. The deaths attributed to diarrhœal diseases, which had been 70 and 66 in the two preceding weeks, rose to 106 last week and included 94 of infants under two years of age; 47 deaths were registered in Dublin, 42 in Belfast, and 3 in Cork. The 4 deaths attributed to scarlet fever were 3 in excess of the number in the previous week, and included 3 in Dublin and 1 in Belfast. Of the 3 fatal cases of enteric fever, 2 occurred in Dublin and 1 in Belfast. The 2 fatal cases of measles were recorded in Dublin and Newtonards, and those from whooping-cough in Dublin and Belfast. The deaths referred to diseases of the respiratory system in the 22 towns, which had been 44 and 20 in the two preceding weeks, rose last week to 38. Of the 377 deaths from all causes in the 22 town districts last week, 85, or 23 per cent., of the deaths occurred in public institutions, and 4 deaths were attributed to different forms of violence. The causes of 14, or 3·7 per cent., of the deaths registered in the 22 towns last week were not certified either by a registered medical practitioner or by a coroner after inquest; the proportion of uncertified causes of death during the week under notice did not exceed 0·5 per cent. in the 77 large English towns, and was equal to 2·8 in the eight Scotch towns.

VITAL STATISTICS OF LONDON DURING JULY, 1911.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 5·1 per 1000 of the population, estimated from the unrevised returns of the recent Census to be 4,522,628 persons in the middle of the year. In the three preceding months the rates were 4·1, 4·3, and 4·4 per 1000 respectively. The lowest rates last month were recorded in Paddington, Stoke Newington, the City of London, Lambeth, Battersea, and Lewisham; and the highest rates in Holborn, Finsbury, Poplar, Southwark, Camberwell, and Greenwich. The prevalence of scarlet fever showed a marked increase over that recorded in either of the two preceding months; the greatest proportional prevalence of this disease was recorded in Fulham, Holborn, Poplar, Southwark, Camberwell, Greenwich, and Woolwich. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals, which had been 1018, 1128, and 1206 at the end of the three preceding months, had further risen to 1400 at the end of July; the weekly admissions averaged 200, against 127, 160, and 162 in the three preceding months. Diphtheria also was considerably more prevalent than in any other recent month; among the various metropolitan boroughs this disease was proportionally most prevalent in St. Pancras, Holborn, Southwark, Bermondsey, and Greenwich. There were 839 diphtheria patients under treatment in the Metropolitan Asylums Hospitals at the end of last month, against 801 and 771 at the end of the two preceding months; the weekly admissions averaged 120, against 97, 100, and 102 in the three preceding months. The prevalence of enteric fever showed a slight increase over that recorded in either of the two preceding months; the greatest proportional prevalence of this disease was recorded in Paddington, Fulham, the City of Westminster, St. Pancras, Poplar, and Deptford. The Metropolitan Asylums Hospitals contained 47 enteric fever patients at the end of July, against 22, 35, and 33 at the end of the three preceding months; the weekly admissions averaged 9, against 5 and 6 in the two preceding months. Erysipelas was proportionally most prevalent in Hammersmith, Hackney, Finsbury, the City of London, Bethnal Green, and Stepney. The 16 cases of puerperal fever notified during the month included 2 in Wandsworth and 2 in Camberwell. Of the 6 cases notified as cerebro-spinal meningitis, 2 belonged to Camberwell and 1 each to Islington, Poplar, Southwark, and Wandsworth.

The mortality statistics in the table relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the several boroughs in which the deceased persons had previously resided; the death-rates from all causes are further corrected for variations in the sex- and age-constitution of the populations of the several boroughs. During the four weeks ending July 29th the deaths of 4105 London residents were registered, equal to a corrected annual rate of 12·4 per 1000, against 16·7, 13·2, and 11·7 per 1000 in the three preceding months. The death-rates last month ranged from 8·4 in Lewisham, 8·9 in Stoke Newington, 9·0 in Wandsworth, 9·9 in Hampstead, 10·4 in Hackney, and 10·6 in Battersea, to 14·6 in Southwark, 15·9 in Bermondsey, 16·2 in the City of London, 16·5 in Shoreditch and in Stepney, and 18·9 in Finsbury. The 4105 deaths from all causes included 71 from measles, 16 from scarlet fever, 37 from diphtheria, 36 from whooping-cough, 4 from enteric fever, and 276 (among children under two years of age) from diarrhœa and enteritis. No death from any of these diseases was recorded last month in the City of London; among the metropolitan boroughs they caused the lowest death-rates in Paddington, Hammersmith, the City of Westminster, St. Marylebone, Wandsworth, Camberwell, and Lewisham; and the highest rates in Finsbury, Shoreditch, Bethnal Green, Stepney, Southwark, Bermondsey, and Greenwich. The 71 deaths from measles were 54 fewer than the corrected average number in the corresponding period of the five preceding years; this disease was proportionally most fatal in Chelsea, Hampstead, Shoreditch, Bethnal Green, and Stepney. The 16 fatal cases of scarlet fever were less than one-half the corrected average number; of these 16 deaths 2 belonged to Islington, 2 to Finsbury, 2 to Poplar, and 2 to Wandsworth. The 37 deaths from diphtheria were slightly in excess of the corrected average for the corresponding weeks of the five preceding years; the greatest proportional mortality from this disease was recorded in Hampstead, St. Pancras, Poplar, Southwark, Deptford, and Lewisham. The 36 fatal cases of whooping-cough were 45 below the corrected average number; this disease was proportionally most fatal in Hammersmith, the City of Westminster, St. Marylebone, Hackney, Bermondsey, and Battersea. The 4 deaths from enteric fever were 7 fewer than the average, and included 2 in Paddington, 1 in Fulham, and 1 in Lambeth. The deaths from diarrhœa and enteritis among children under two years of age caused the highest death-rates in St. Pancras, Finsbury, Shoreditch, Bethnal Green, Stepney, and Greenwich. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases (excluding diarrhœa) was 42·3 per cent. below the average.

THE SERVICES.

ROYAL ARMY MEDICAL CORPS.

Lieutenant (on probation) Hugh G. Monteith, from the seconded list, is restored to the establishment (dated July 29th, 1911).

Colonel F. J. Jencken, administrative medical officer of the Colchester District, has been selected as Administrative Medical Officer of the Fourth Division at Army Manœuvres. Colonel T. M. Corker, principal medical officer of the British forces in Egypt, has arrived home on leave of absence. Lieutenant-Colonel J. F. Donegan, in medical charge of the Military Hospital at Parkhurst, Isle of Wight, has been transferred from the Southern to the Eastern Command. Major E. M. Morphew, commanding the

Station Hospital at Roorkee, Meerut Division, has arrived home on leave of absence from India. Captain R. N. Hunt, in medical charge of the effective troops at Bordon, has embarked for a tour of service at Cairo. Captain J. W. West has been transferred from the Military Hospital at Rawal Pindi to the Murree Cantonment. Captain J. E. Hoar, on return home from a tour of service in the Madras Presidency, has been placed in Medical Charge at Ballykinler Camp. Captain W. R. Galwey, from the Station Hospital, Lahore, has taken up duty at Dalhousie. Captain G. G. Tabuteau, from Jhansi, has been selected to command the Station Hospital at Jutogh, Simla District. Captain A. C. Osburn, in medical charge at Bedford, has joined for duty at the Military Hospital, Colchester, on relief by Lieutenant-Colonel J. Poynder. Captain J. H. Spencer, from Ambala, has been appointed to the Station Hospital at Kasauli.

INDIAN MEDICAL SERVICE.

Colonel H. Hendley, principal medical officer of the Sirhind and Jullundur Brigades, has been selected to succeed Colonel D. ffrench-Mullen as Deputy Principal Medical Officer of His Majesty's Forces in India, with effect from August 7th. Lieutenant-Colonel A. H. Nott has been granted six months' leave of absence home from India by the Home Department. Major P. Dee has been permitted by the Secretary of State for India to return to duty within the period of his leave. Major G. McI. C. Smith has been appointed Civil Surgeon of Ludhiana. Major N. P. O'G. Lalor, Deputy Sanitary Commissioner in Burma, has been placed on special duty by the Government of India in connexion with the investigation and prevention of malarial fevers. Major G. H. Stewart has been transferred from Taunggyi to Rangoon, and appointed to officiate as Sanitary Commissioner of Burma, in succession to Major N. P. O'G. Lalor. Captain A. G. Coullie has been appointed Specialist in Advanced Operative Surgery to the Third (Lahore) Division. Captain J. Proctor has taken up civil medical employment in Bengal Presidency and has been appointed to the Medical College Hospital at Calcutta. Captain A. E. J. Lister, surgeon to His Excellency the Commander-in-Chief of India, has arrived home on leave of absence. The services of Captain R. D. Saigol have been placed permanently at the disposal of the Government of India. Captain G. F. I. Harkness, civil surgeon at Wana, has been granted two months' privilege leave of absence. Captain J. Anderson has been appointed to officiate as an Agency Surgeon of the Second Class nd posted as Civil Surgeon of Dera Ismail Khan. Lieutenant A. McD. Dick has been appointed Specialist in Advanced Operative Surgery in the Burma Division.

TERRITORIAL FORCE.

Royal Army Medical Corps.

1st South-Western Mounted Brigade Field Ambulance, Royal Army Medical Corps: Major George R. Swinhoe, whose resignation has been announced, is granted permission to retain his rank and to wear the prescribed uniform.

Attached to Units other than Medical Units.—Lieutenant Charles J. I. Krumbholz to be Captain (dated April 21st, 1911). Robert Donald to be appointed Lieutenant (dated July 28th, 1911).

By the permission of the Officer Commanding Royal Army Medical Corps depot at Aldershot the sports of the 1st London Division, Royal Army Medical Corps, Territorial Force, were held on the Queen's ground, Aldershot, on August 12th, when the following units competed: 1st, 2nd, and 3rd City of London Field Ambulances, 1st General Hospital, and 1st City of London Sanitary Company. Amongst those present were: Surgeon-General G. W. Robinson, C.B., P.M.O.; Colonel P. B. Giles, C.B., A.M.O., 1st London Division; Lieutenant-Colonel J. Harper, Lieutenant-Colonel R. R. Sleman, Lieutenant-Colonel J. Norwood Brown, and Colonel C. E. Harrison, C.V.O The Miles Challenge Cup, presented by Major E. Miles, is awarded to the Field Ambulance scoring the most points in certain events at these annual sports. The 3rd Field Ambulance were the holders of the cup. When the sports started it seemed likely that the 1st Field Ambulance would not be able to attend, as owing to the exigencies of military service they had been kept at work until the afternoon, greatly to the disappointment of the men, who had only lost the cup last vear by the narrow margin of five points. But instead of giving up they started, under the hot sun, on their long march from Frith Hill, and arrived with their tents and baggage late in the afternoon, by which time seven of the events which counted for the challenge cup had already been decided, but there were seven events left for competition, including the more important and technical competitions requiring knowledge of the special work of the Royal Army Medical Corps. The aspect of the competition changed as soon as the 1st Field Ambulance, under Lieutenant-Colonel Sleman, arrived, as this unit succeeded in securing the cup by a considerable margin, winning in succession the tug of war, the operating tent and bell tent pitching, the harnessing competition, and gaining second place in the riding and driving, being only half a point behind the 2nd Field Ambulance. The 2nd Field Ambulance, commanded by Lieutenant-Colonel Norwood Brown, and the 3rd Field Ambulance, commanded by Lieutenant-Colonel Harper, were second and third respectively in order of merit. Great credit is due to Staff-Sergeant E. May, the sports secretary, for the admirable arrangements made, and the success of the afternoon is largely due to him.

Correspondence.

"Audi alteram partem."

THE INCIDENCE OF TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—The data appearing over the signature of J. Tertius Clarke, M.R.C.S. Eng., medical officer, Lower Perak, F.M.S., in your issue of July 15th (p. 187) are presented at a very opportune moment. They are of distinct value in connexion with the unification of our knowledge of tuberculosis and its varied manifestations among men and animals. We have much to learn concerning the ubiquity of the tubercle bacillus, and I am looking forward with pleasure to the perusal of the appendices to the report of the Royal Commission on Tuberculosis which you also announce. I am confident from the interim reports of this Commission that their data will give us many details to fill some of the broad gaps found in articles dealing with the intercommunicability of the disease and the variations in type of the causative organism.

The results of Park and Krumweide, as reported in the *Journal of Medical Research* for October, 1910, give us much information, although they drew no conclusions from the data which they presented. Upon analysis we find that of the 1042 cases which they tabulate (436 of which are reported for the first time) 26·8 per cent. of the children dying from tuberculosis under 5 years of age yield an organism of the bovine type, while children from 5 to 16 years of age yield the bovine organism in 25 per cent. of the cases. The percentage of cases giving the bovine type of organism after 16 years of age would indicate that a change in type may, and probably does, occur from the bovine to the human type, through residence in the human system in from 18 to 20 per cent. of the fatal human cases.

Is it not possible that the tubercle bacillus has a mean temperature and environment in which it attains its highest virulence, while any variation above or below this mean, or any variation unfavourable to its growth, leads to a certain attenuation, and this degree of attenuation is maintained so long as the new conditions are constant? A parallel condition is observed with anthrax vaccine and is the basis upon which the protective inoculation of animals is founded.

I am of the opinion that the mean temperature and environment giving the greatest virulence to the tubercle bacillus is found in the bovine. When the temperature is increased above or below this mean we have an attenuation—e.g., in birds (temperature 108° F.) and in the human being (temperature 98½° F.). (The bovine temperature varies from 101 to 103° F.) Some of my experiments have confirmed the transmutation of the organism from one type to another but have not been conducted in sufficient numbers to warrant their publication at this time. I anticipate being able to

devote more attention to this phase of the tuberculosis problem in the near future.

I am, Sir, yours faithfully,

CHAS. H. HIGGINS, Pathologist.

Biological Laboratory, Ottawa, August 1st, 1911.

THE NEED FOR INTERNATIONAL MEDICO-POLITICAL CONFERENCES.

To the Editor of THE LANCET.

SIR,—I venture to believe that the time has come when British medicine has much to gain from conference on medico-political matters with its brethren of other nationalities—much, perhaps, to lose for want of such conference. The likeness of the present crises in Germany and England, and theal ready expressed wish of some French medical men for a meeting of representatives of the French and English professions to discuss the legislative proposals now made in this country, taken in conjunction with such considerations as the community of interest and responsibility of all national branches of the profession, their broad national humanitarian rather than merely national outlook, the similarity of interference by various Governments with professional affairs, the obvious danger to all of mischievous limitations of the liberty of one, and the consequent necessity for community of action, not only in their own interests, but in the interests of mankind in general, point clearly, it seems to me, to the above conclusion. On the wider and more remote advantages of such meetings I do not dwell. In practical politics the "dreamer of dreams" is generally a dangerous man. But it can scarcely be doubted that the closer union of policies, the more intimate association of interests by all the national divisions of a calling, essentially one increasingly pre-eminently intellectual, and therefore increasingly pre-eminently influential, must in the long run tend to promote a better world-wide international feeling—to foster the growing desire for international peace.

A more immediately important consideration, however, of such remote policy is the avoidance of anything which could ultimately lead to undesirable results. There seem to me to be sound historical reasons against "an international medical association" on the lines indicated for "Labour" by certain Socialistic propagandists. Such associations tend to become "antinational," and have, indeed, been advocated with that very idea in view. Each nation in medicine should preserve intact its own laws and customs specially adapted to its own public, without international trammels to limit its liberty and progress. What is wanted is a committee of representatives, not too numerous, from all the civilised nations, of medicine, embodying the best brains of the profession throughout the world—a body, in fact, not very unlike the committee which constitutes the Peace Conference at the Hague. By means of such a body all important medico-political problems arising in one country could be submitted for consideration and advice to the world-wide experience of the profession. It can scarcely be doubted that the result would be of value. Advice so obtained need by no means necessarily be acted on, but could scarcely fail to beneficially affect action or to add immense weight to action taken in accordance with it. Possibly the International Medical Congresses held annually in different countries might afford the most convenient occasions.

The idea seems to me at least one which is well worth considering. Some day or other such conferences will almost certainly take place. Why not soon? The occasion seems to ask for them.

I do not suppose that many people are making the profound mistake of thinking the present crisis is a merely passing incident. It is only a beginning. No one who reflects reasonably upon the vast powers which a century of medical labour has built up in all lands will imagine that vote-needy politicians are going to pass it by with eulogistic indifference. As well expect a signed blank cheque safe during the evening visit of a burglar. The profession, I believe, has got to put its bolts and bars in order, and the sooner it does so the better, and not in one country only but in all. It is perhaps amusing, but it is scarcely reassuring, to see democracy stepping eastwards to take tips from autocracy, for the tips are not likely to be favourable to individual rights. Let those who prize liberty take all possible steps to protect it.

I am, Sir, yours faithfully,

Exeter, August 6th, 1911. W. GORDON.

SMALL-POX IN THE UNITED STATES: A DANGEROUS DOCTRINE.

To the Editor of THE LANCET.

SIR,—In THE LANCET of July 22nd, on p. 236, you discussed an article on "Small-pox in the United States" published in the Public Health Reports of June 23rd. In the discussion you quoted the sentence, "That the community is protected by vaccination may be true for certain localities, but that the protection thus afforded is general can hardly be maintained," and construed it to be an assertion that it cannot be maintained that the protection afforded by vaccination is of general application.

You misconstrued the meaning of the author. The intended meaning was that, while vaccination had been practised in certain localities in the United States, and the people in these localities, therefore, possessed the protection which vaccination affords, the practice of vaccination had not been sufficiently general throughout the country as a whole to warrant the assumption that the community at large enjoyed this protection. The community at large could not be said to be protected by vaccination, not because vaccination did not protect, but because a large proportion of the people had never been vaccinated.

I shall be glad if you will publish this letter.

I am, Sir, yours faithfully,

Washington, D.C., August 7th, 1911. JOHN W. TRASK.

RUBELLA OR MEASLES?

To the Editor of THE LANCET.

SIR,—I am glad to see that my friend, Dr. Donald Hood, from his own wide experience has independently reached the same conclusion I announced some years ago—that rubella and ordinary measles are identical diseases. In my book on School Hygiene, published in 1885, I wrote, pp. 259–60: "Under the name of roseola, rubella, or rose rash, a form of disease has been described which is believed by some to be specific in nature, and by others is apparently confused with that rather mysterious disorder known as rötheln, or German measles. I have had the opportunity of studying one or two epidemics, and am thoroughly satisfied that we have merely to deal with a miniature or aberrant type of measles, as the following evidence will prove. Whilst nearly all the 30 cases which came under my observation on one occasion at Rugby School were most insignificant in character, a few ran gradually up to the type of true measles, which was reached in absolute perfection in two instances. These patients presented all the usual symptoms attendant on true measles in rather aggravated degree; there were copious eruption, high fever, and troublesome bronchial irritation, resulting, so far as careful inquiry could make out, from precisely the same infection which had barely disturbed the constitutional equanimity of the other victims of the epidemic."

I am, Sir, yours faithfully,

ROBERT FARQUHARSON, P.C., M.D.

Aboyne, N.B., August 7th, 1911.

A QUESTION IN EUGENICS.

To the Editor of THE LANCET.

SIR,—Does not Dr. Robert Jones in his letter of August 3rd confuse vasectomy with castration? The case he quotes was probably one of the latter, for the former has not the baleful effects Dr. Jones describes. Eugenists are agreed that castration for purposes of sterilisation is inadmissible. Dr. Jones's other contentions, in which he appears to take up the disastrously selfish position of the individual against the race, are sufficiently replied to by Dr. C. T. Ewart in the same issue.—I am, Sir, yours faithfully,

MACLEOD YEARSLEY, F.R.C.S. Eng.

Queen Anne-street, W., August 14th, 1911.

ANTISEPSIS AND ASEPSIS.

To the Editor of THE LANCET.

SIR,—"There is no such thing as an aseptic method; it is the result which should be aseptic." So says Mr. H. Alexis Thomson (THE LANCET, August 12th, p. 441), and so have I been saying for more years than I care to count.

Is it not high time that men should show some common sense in this matter and cast off prejudice?

I am, Sir, yours faithfully,

GEORGE GRANVILLE BANTOCK.

Pinner, Middlesex, August 11th, 1911.

SALVARSAN ("606") AND MERCURY IN THE TREATMENT OF SYPHILIS.

To the Editor of THE LANCET.

SIR,—Since I am not writing over my signature I must refrain from any comment on the recent discussion in your paper. It has been marked on both sides by general and sweeping statements. My object in writing is to call attention to a particularly curious assertion by Mr. H. W. Bayly in your issue of August 12th. Talking of the Wassermann reaction, he says: "Probably ..... and myself have greater opportunities for extended investigations on this subject than other workers in this country." That is hardly fair on the other workers. If Mr. Bayly had investigated *this* subject he would have found that his statement was inexact; surely if he looks about the country Mr. Bayly will find people who have actually tested more cases than he has and have even had longer experience in the bacteriological study of syphilis.

I am, Sir, yours faithfully,

August 16th, 1911. BLANK.

THE SCOPE OF A MEDICAL MAN'S AUTHORITY.

To the Editor of THE LANCET.

SIR,—I am at present attending a footman with subacute rheumatism at his mistress's house. Owing to pericardial complication he has been in bed for five weeks, and is slowly convalescing. At the outset I told him he must go into the nearest infirmary, some ten miles away, and he flatly refused. I could not with his then inflamed joints send him to his home 150 miles away, with the result that his mother was wired for, and she (a monthly nurse) has nursed him all through. His mistress told me yesterday I had created a precedent, and now whenever her servants became ill they would just insist on remaining for treatment at her house. Some friends staying with her have just raised this point. Can I, the medical attendant, *enforce* the removal of this patient (or that of any other servant under similar circumstances) to a neighbouring hospital against their will? I was under the impression I could not, and I presume I was justified in the course I took. If the point is of sufficient importance would you kindly insert this letter in your correspondence columns? Thanking you in anticipation,

I am, Sir, yours faithfully,

August 5th, 1911. M.D.

*** We deal with the points in an annotation.—ED. L.

REPORT ON BREAD VALUES.—Dr. J. M. Hamill's report to the Local Government Board on the nutritive value of bread made from different varieties of wheat flour has been issued. He states that the records of experimental work consulted and of other writings do not permit any conclusive statements to be made regarding the exact relative value in nutrition of different varieties of flour. He says, however, "the notion, for example, that ordinary high grade and naturally white 'patent' flour is practically devoid of protein or nitrogenous constituents, whereas the latter are abundantly present in bread made from wholemeal and 'entire' wheat flours is erroneous." He adds that the differences are relatively of no great magnitude, and may be neutralised by imperfect absorption from the digestive tract, and that "there are commonly wider differences in protein content and energy value between 'patent' flours obtained from different wheats than between the 'patent' flour of a given wheat and the corresponding wholemeal."

THE INTERNATIONAL EXHIBITION OF HYGIENE AT DRESDEN.

(BY A SPECIAL CORRESPONDENT.)

EVERYONE who is working to diffuse amongst the people a knowledge of hygiene is offered a magnificent opportunity this year of seeing with his own eyes how attention to the laws of health can improve the physique of the individual and consequently of the nation, and of learning how to bring this knowledge of the usefulness of hygiene clearly, attractively, intelligently, and convincingly before the minds of the layman and the unlearned. For in the Dresden exhibition, which remains open till the middle of October, these things are all set out as never before, with a profusion of beautiful and well-chosen casts, models, pictures, diagrams, and preparations intended to popularise the knowledge of the foundations of health, and to convince everyone that attention to the laws of hygiene will increase his or her children's growth and regularise their development. While the prevention of disease, particularly tropical and infectious disease, is lavishly demonstrated, the keynote of the exhibition is the awakening of the people to the measures they can usefully take in their everyday life to raise their standard of ordinary health, and so to strengthen their physical frames and increase their daily output of work, not without thought for the greater combined power (as the Romans said "corroboration") that their individual improvement will give their nation, and the more numerous posterity their thus enhanced vitality will leave behind them.

Such statements are best explained by concrete examples. In the section for care of the teeth are two pictures, one a slightly altered replica of the other. In the first a charming lady with a friendly smile and beautiful teeth wins your regard; the other is like unto it, but, alas! two of her front teeth are black, and the charm has gone. I should think no girl, and hardly any boy, who passes it will forget the lesson. In the section dealing with the effects of alcohol the experience of a large insurance company is quoted. The company found that amongst a thousand teetotallers the regular number sick was two, as against five for every thousand who took alcohol, a result not quite so conclusive as it sounds. The diagram, or something like it, we have all seen before. But it became much more impressive when beside it was shown a nice coloured picture of two hospital wards, in one of which were merely the two sick teetotallers, and in the other the five alcoholics. It is quite well to tell us that houses should be properly lighted and that streets should therefore not be too narrow for the heights of the houses. It is more striking when you see, as here, good pictures emphasising the darkness of the lower rooms in the high and narrow streets of old Dresden, and the brightness of all the dwellings in the wide streets of new suburbs. This lesson is accentuated by a neighbouring exhibit of the same plants in the same soil in the three divisions of a glass case, one shielded from light by black curtains, one by white calico blinds, and the third open to sunlight. We have all seen tables of the relative fertility of families of men in different employments, but when you are shown that from 20 fathers who are farmers or foresters 25 rifles come to the country's army, but from 20 fathers who are living on their means or are well-to-do only 15 rifles are pictured, the statistics seem to acquire a far more real importance.

These examples come from the popular section called "Der Mensch," "Man," which is the *clou* of the whole exhibition. That it is so one recognises at once in the preface to the catalogue, written by the president of the directors, Geheimer Kommerzienrat K. A. Lingner—an appreciation of the relation of hygiene to the life of the State, than which I have never read a better. If one may judge from the numbers of the throng which is always packing this pavilion the lesson is being absorbed. Here I may say that the average number of visitors to the exhibition for the first two months was 30,000 per day, though the school holidays had not yet commenced. The plan of this section is particularly well thought out and complete. First the simple cell. Forty microscopes show unicellular organisms and the building up of cells into simple tissues and complex structures. Then the development of bones in the fœtus is

shown, and then the skeleton—the muscles, not in mere lecture diagrams as we know them, but in pictures. Respiration, digestion, excretion, the nervous system, the ear, the nose, the eye—each has its roomy subsection. There are machines that work and show the range of sounds a man can hear, the blending of red, blue, and green light into white, binocular vision, and so on. Then the foods a man uses are shown, the plants from which they come, their proximate principles, the relation of price and energy value of each, and the adulterations. Then we have displayed clothing, said to begin with the need for protecting the organs of generation from flies and insects—a thing like a finger of a glove from one savage nation, a fly-mat for a woman from another; then the materials of clothing, their origin (silk-worms, &c.) and their manufacture (tanning and weaving); then we see the damage that may be done by badly devised clothing, and here the exhibition of the corset was a specially thronged subsection, containing plaster casts of a woman who has worn no stays, of another who tight-laces, and of others with the anterior thoracic and abdominal walls removed. In this section are shown on a model the contraction of toes by tight boots, and varicose veins from garters. Next come houses—how to build, warm, light, and ventilate them; and beds, how to make and how not to make them, all in models, among which can be seen the old press bedstead. Alcohol and tobacco and the harm they do are illustrated by pictures of drunkards from the great painters, while the reduction of offspring in families of drunkards, the higher proportion of epileptics among them, and the lessened food value of barley when made into beer instead of being eaten are all illustrated.

Then come important diseases. One is met by "the English disease," which turns out to be rickets. There is a room for tubercle, where are found statistical statements of death-rates, pictures of the bacillus and massive cultures thereof, spitting-pots, preparations of tuberculous organs, and pictures of sanatorium life; another room is used to illustrate small-pox and vaccination; another shows venereal diseases, with many wax models of specific skin eruptions. Then follow plague, typhoid, and other acute infectious diseases. Another gallery shows the care of infants—how to hold and how not to hold them in their baths, and how to feed and clothe them. Here we have a plaster cast to show spinal curvature in a girl carrying her school books in her hand. Wax models of anthrax lesions, of washerwomen's eczema, and of "phossy jaw," bring home the realities of diseases of occupation.

The grounds are about 60 acres, there are numerous cafés and restaurants, and many bands play. There is a "stadium" for physical drill displays and athletic competitions, a swimming bath, an Abyssinian village, Moorish dancing, and a panorama of the Bavarian Highlands. So that it is quite possible to spend the whole day in the exhibition without any chance of being bored. The cost is from £8 to £10 to get to Dresden, and 25*s.* or 30*s.* a day when there, and I cannot recommend to any medical officer of health a more profitable holiday for a week. But there is so much to see that it will mean hard work, and a fortnight would be better.

The outline I have drawn gives little idea of the fulness and detail of this comprehensive exhibition.

(To be continued.)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

No Fee, No Evidence.

A CASE of some interest to medical men occurred recently in the Manchester County Court. An injured workman was seeking compensation from his employers, and counsel stated that the man's case depended on the evidence of a medical man who had been subpœnaed to attend the court. The medical man attended, but he refused to give evidence until his fee of 4 guineas was forthcoming. The counsel stated that as the workman was not able to pay the fee he would withdraw the proceedings and leave the court to deal with the case. The judge said that although the medical man could be brought into court by subpœna he was entitled to his fee, and until he was paid the court could not compel him to give evidence. The employers called several medical men on their behalf, and on their evidence the judge decided that the claim could not succeed.

Hospital Sunday Fund.

The total sum raised was £3500, which has been distributed amongst the medical charities as follows:—Royal Infirmary, £875; Children's Hospital, £456 11*s.* 4*d.*; Sick Poor and Private Nursing Institution, £302 10*s.* 8*d.*; Ancoats Hospital, £282 17*s.* 7*d.*; St. Mary's, £265 13*s.* 5*d.*; Hospital for Consumption, £247 13*s.* 3*d.*; Salford Royal, £204 17*s.* 11*d.*; Hospital for Incurables, £180 2*s.* 10*d.*; Royal Eye, £180 0*s.* 7*d.*; Northern, £153 17*s.* 10*d.*; Victoria Memorial Jewish, £95 17*s.*; Hospital for Skin Diseases, £88 4*s.* 7*d.*; Ear Hospital, £44 12*s.* 6*d.*; Christie, £32 6*s*; Dental, £28 19*s.*; Greengate Dispensary, £23 19*s.* 1*d.*; Hulme Dispensary, £23 5*s.* 2*d.*; Chorlton-on-Medlock Dispensary, £12 1*s.* 4*d.*; and Lock Hospital, £1 9*s.* 11*d.*

Salford School Children.

At its last meeting the Salford education committee was called on to consider a report on the appointment of an additional medical officer for the examination of school children. In consequence of the large number of re-examinations which have become necessary it is impossible for the medical officer to carry out the ordinary examinations at the schools in accordance with the requirements of the Board of Education. The work is increasing greatly. The opinion was expressed that the extra responsibilities should not be placed on the shoulders of the education authorities unless it were the intention of the Board of Education to give them extra financial assistance. It was agreed that the health and cleanliness of the children had improved considerably since the examinations had taken place. Ultimately, the question was referred back to the elementary education sub-committee.

Report on the Outbreak of Ptomaine Poisoning at Bacup.

A full report has now been issued by Mr. E. Sergeant, county medical officer of health of Lancashire, on the occurrence of the serious outbreak of ptomaine poisoning in the Borough of Bacup which I referred to in my letter in your issue of August 5th. Of the total attacks in the administrative county—205 in number (males 98, females 107)—175 were found to be due to potted meat and 30 to roast pork. Of these cases 188 occurred within the Borough of Bacup. In every case the suspected food came originally from the same source in Bacup. The infected food was remarkably virulent, for of the 207 persons known to have partaken of it only 2 escaped illness, and cases appeared in 96 households. The time which elapsed before the first appearance of illness after the consumption of either potted meat or roast pork varied from half an hour to 65 hours, and even the consumption of less than an ounce in weight gave rise to the characteristic symptoms: severe abdominal pain, vomiting, and profuse diarrhœa, and in some cases great prostration. Of the five deaths all were due to potted meat. Examination of fatal cases showed that the blood and organs in each case contained the bacillus of the Gärtner type usually recognised under such circumstances. The cause of the food infection has not so far been satisfactorily elucidated, but one condition set out in the report must be viewed with suspicion. "It appears that the shopkeeper, in order to provide a cooling place for his cooked food, made an entrance from his cookhouse into an adjoining stable by breaking through a portion of the partition wall, and in this place, which had a loft above containing pigeons and was only separated by a wooden partition from another part of the premises used as a stable for one horse, all the suspected food in question was cooled, excepting the roast pork which, it is stated, was stored in the cookhouse, and therefore partially under the influence of the stable air, until removed to the shop next day. Several samples of air, &c., from this unique storehouse have been examined bacteriologically, but up to the present time no bacteria of the Gärtner type have been found."

Women and Inebriate Homes.

At the meeting of the Lancashire Inebriates Board, held at Preston, the chairman of the Langho Inebriates Home gave instances of the irreformable character of some of the women committed to this institution. This shows the futility of existing legislation, which requires that such a

person must again "qualify" for admission to such a home by undergoing three short terms of imprisonment before she can be re-committed. London, it seems, sends women to the homes earlier in their decadent career, with a better chance of recovery. The chairman expressed the wish that Lancashire would do likewise. Of the 210 women committed to the home, 64 came from Manchester and 50 from Liverpool.

Rochdale and Compulsory Notification of Phthisis.

The local health authorities at Rochdale have proposed that phthisis should be made a compulsorily notifiable disease. The Local Government Board held an inquiry in Rochdale on July 18th, at which the town clerk stated that one of the reasons which had led to the proposition was that voluntary notification had broken down. In 1905 37 cases were notified voluntarily, 11 were notified in 1909, and 20 in 1910. It is proposed to form a joint committee of the health authorities and the Rochdale board of guardians. Nurses are to visit the cases notified and the authorities to contribute to the cost according to the rateable value.

August 15th.

WALES AND WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENT.)

The Pecuniary Position of Cardiff Infirmary.

IN addition to the National Memorial to King Edward VII., which is taking the form of a complete scheme for the prevention and treatment of tuberculosis in the Principality, there is being raised in Cardiff a memorial fund, the proceeds of which are to be given to the Cardiff Infirmary. Seven successive years in which the expenditure of the institution has exceeded the income has resulted in a debt of about £20,000, upon which sum interest has to be paid. There has already been subscribed to the memorial fund over £19,000, so that the current indebtedness of the governors has practically been wiped out. The average yearly expenditure is about £15,000, and when the new wings now in course of erection are completed with their additional 82 beds, it is expected that that amount will be increased to £20,000. It is proposed, therefore, that the memorial funds shall be applied to augment the capital which is already invested by the governors. In recent years the contributions of workpeople, both in Cardiff and in the adjoining districts, have been collected under an organised system, and in 1910 they yielded £4700. The general subscriptions amounted to £2900, or nearly £150 less than the sum derived from the same source in 1900, although between the two dates named the population of Cardiff has increased by nearly 20,000 persons. When it is remembered that the infirmary serves not only the inhabitants of Cardiff, who numbered at the last census 182.000, but a population in the colliery districts of Pontypridd and the Rhondda valleys of over 200,000 persons, it is difficult to understand why there should be such a comparatively small subscription list.

Medical Treatment of School Children in Cardiff.

In the annual report of the Cardiff school medical officer, Dr. E. Walford, an account is given of some of the methods by which children found defective on medical inspection receive treatment. Many of them attend the out-patient department of the infirmary, where they are attended free by the ophthalmic surgeons and dentists. In other cases they are attended by dentists, with seven of whom arrangements have been made to attend school children at reduced fees, extractions being performed for 6*d.*, and stoppings for 2*s.* each tooth in cases where only one visit is necessary, and 2*s.* 6*d.* where more than one visit is required. In April, 1910, Dr. Walford wrote to the ophthalmic surgeons in the town, asking them if they would be willing to attend the school children who were found to have defective vision. Two of the surgeons agreed to attend such children at a reduced fee of 7*s.* per consultation and prescription. Arrangements have also been made with opticians to supply spectacles at a reduced rate. All these charges are apparently paid by the parents and not by the education authority, although the report is not very clear on this point. Minor ailments are treated by the school nurses at the City Hall under the direction of the medical inspectors. This arrangement has been sanctioned by the Board of Education, and presumably is acquiesced in by the practitioners of the town. There is at present no special provision in Cardiff for carrying out the cleansing section of the Children Act, but this defect is to be remedied by the erection of a cleansing and disinfecting station.

The Sanitation of Pembrokeshire Schools.

The sanitary authorities in the western counties of Wales have notoriously neglected their duties in so far as the inspection of dwelling houses are concerned, and the remedying of unsatisfactory conditions that have been brought to their notice. That they have paid little or no attention to the sanitary condition of the elementary schools is apparent from the report of Dr. Thomas Evans, formerly school medical officer of Pembrokeshire and now medical officer of health for the county borough of Swansea. In no less than 40 of the Pembrokeshire schools there is no supply of water, either for cleansing or for drinking purposes, and in 83 there is none for drinking. The sanitary conveniences in many schools are very unsatisfactory, and altogether there is ample evidence of the need for a thorough inspection of the school buildings in the county.

Spotted Fever in the West of England.

At the last meeting of the Holsworthy (North Devon) urban district council a resolution was passed by the casting vote of the chairman: "That an emergency is caused by an epidemic of cerebro-spinal fever and poliomyelitis (anterior) and this disease shall be notified in the district for six months from August 19th." The Stratton and Bude urban district council, the Stratton rural district council, and the Holsworthy rural district council have also made the disease notifiable for six months. Dr. R. J. Reece, of the Local Government Board, in addressing the Holsworthy rural district council, stated that there were probably about 30 cases in that district. Some of the cases have proved fatal, and it is stated that two deaths occurred in adults.

A Double Tragedy.

Mr. C. W. Young died at his residence, Newcomin Cottage, Dartmouth, on August 7th, after an operation for appendicitis. His widow, who had been so anxious for her husband's recovery as to be not always rational in her actions, took hydrocyanic acid and died a few hours after her husband. A verdict to the effect that "Death was due to prussic acid whilst temporarily insane" was returned by the coroner's jury. Mr. Young, who received his medical education at Charing Cross Hospital, qualified as L.R.C.P. Lond. and M.R.C.S. Eng. in 1895, taking the D P.H. of Cambridge in 1899. After holding resident appointments at Charing Cross Hospital and the Stockton and Thornaby Hospital Mr. Young practised at Luton (Beds) and was on the honorary staff of the Bute Hospital, Luton. He afterwards went to Dartmouth and was appointed an honorary surgeon to the Dartmouth (Devon) Cottage Hospital. Mr. Young was very popular in Dartmouth, and much regret is felt there at his death and at the tragic decease of Mrs. Young. Both bodies were interred at Luton.

August 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Small-pox in Lochee, Dundee.

THE medical officer of health of Dundee, Dr. Charles Templeman, gave a report of the outbreak of small-pox in Lochee at a meeting of the public health committee on August 1st. The first cases occurred in a family of perfectly cleanly habits, residing in an isolated tenement, but the father had only been imperfectly vaccinated and two of the children not at all. The father, mother, and these two children were attacked. The father died in hospital two hours after admission. Three other children who had been properly vaccinated were not attacked. On the following day two women who resided in the same tenement and had visited the infected family were found to be suffering from small-pox and were removed to hospital, where one of them died. On July 28th another case occurred in a tenement in the same street of a young girl who had visited a relative in the first infected tenement. There are at present six cases in hospital and 23 persons in the reception-house. Dr. Templeman

remarked that during the outbreak his experience had been that the early cases were always regarded as chicken-pox, and as the season was approaching at which small-pox was most apt to appear in epidemic form he suggested that the committee should recommend the town council for the following year to add chicken-pox to the list of diseases which were compulsorily notifiable. He had not been able to ascertain where the infection primarily came from, but this confirmed his suspicion that the disease was being spread by mild cases which had been missed, probably regarded as chicken-pox. It was agreed to recommend that chicken-pox should be made compulsorily notifiable for the next twelve months.

Increase of Tuberculosis in Aberdeen.

Dr. Matthew Hay, medical officer of health of Aberdeen, says that during the quarter 29 tuberculous cases were admitted to the City Hospital. The pavilion for tuberculous cases has been constantly full, and there has always been a large number in waiting. The erection of a new shelter in connexion with the pavilion will provide for an additional 45 male cases and for 8 or 10 female cases, increasing the accommodation for tuberculous cases by one-half.

Inadequate Accommodation at Kingseat Asylum Hospital.

In his report to the asylum committee of Aberdeen district lunacy board Dr. John Macpherson, Commissioner in Lunacy, says that the hospital accommodation at Kingseat Asylum is unfortunately proving too limited and will become more so as time goes on. Excluding the isolation wards, 90 of the 93 beds in the building were occupied, and several patients who would otherwise have been in hospital were being treated in villas. In bringing this question of accommodation to the consideration of the district board, it was necessary to explain that within recent years a perceptible change had taken place in the type of patients admitted to all the asylums in the country. Persons in weakly physical health and those suffering from the infirmities of old age were now being sent to asylums in proportionately larger numbers than formerly, and the strain upon the hospital section of asylums was universally felt. It was evident therefore that the district board must sooner or later face the necessity of erecting hospital accommodation for the institution. The asylum committee also considered the question of the assistant medical officership at Kingseat, and reported that it had before it two applications for the vacant post from lady graduates in medicine. The committee resolved again to advertise the post at a salary of £120 per annum, with board, as formerly offered, and suggested that in the meantime the medical superintendent should engage a locum tenens.

Typhus Fever in Lewis.

At a meeting of the Lewis district committee, held at Stornaway on August 7th, the report of Dr. D. Murray, district medical officer of health, on the recent outbreak of typhus fever in the township of Borve, was submitted. Eighteen cases were notified, occurring in six families, and there were three deaths. The report states: "There is no cause for surprise in this epidemic; the strange element in the situation is that typhus fever should ever be absent from Borve. The village is an exaggerated microcosm of the worst sanitary features of the Island of Lewis—a congeries of the blackest of black houses, huddled together in a manure-laden swamp. In many cases the sleeping apartment of one house is cheek-by-jowl with the byre end of the next, the manure in the latter at a much higher level than the bedroom. In Borve—as elsewhere—there is some evidence of progress in the building of a better class of house; but the great majority of the dwellings outrage the most elementary sanitary principles." They are built on sites which are impossible to drain, and are consequently sodden and reeking with the products of the byre—a most fertile breeding-ground for fever and other diseases. "The remedy can be briefly stated. The great majority of the present houses should be condemned and a better class built on healthier sites." It appears that sites for crofters could be got on the common grazings, but not for cottars. Typhus fever, however, has no respect for persons, be they crofters, cottars, or squatters, and unless the inhabitants are all removed to healthier sites—which are plentiful in the neighbourhood—we may be sure, as Dr. Murray says, that outbreaks of virulent infectious diseases, perhaps in a more extensive and aggravated form, will recur from time to time. The chairman of the Lewis district committee remarked that some years ago negotiations for better housing had fallen through, owing to the fact that, in addition to the crofters' houses, there were also houses occupied by squatters, who are not tenants of the estate, and have no legal standing in the community; and to provide sites for them would be to give them a recognition which the proprietor, in view of the provisions of the Crofter's Act, did not feel justified in giving them. On the occasion of one of his visits to Lewis, Lord Pentland visited Borve and saw for himself the sad condition of affairs there, and on a later occasion he (the chairman) accompanied Mr. Coles, of the Congested Districts Board, to Borve and had a conference with the people. He had no doubt that if new sites were offered, and a little financial assistance given, there would be no difficulty in getting the public to erect new houses. It was agreed to send a copy of Dr. Murray's report to the Scotch Office and to the Local Government Board, in the hope that they will see their way to assist the local authority in carrying out some improvements.

August 15th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Infantile Mortality in Dublin.

A FEW months ago a committee was appointed at a public meeting in the Mansion House, Dublin, to attempt to reduce the high rate of infant mortality in Dublin. It is reported that there are now 35 voluntary health visitors working under the committee, while some 20 more are being trained for the work. Over 100 nursing mothers are visited on an average each month. The Countess of Aberdeen has offered to supply pasteurised milk free in suitable cases to mothers and babies. Diarrhœal diseases are very prevalent in Dublin this year, probably as a result of the unusually hot weather. In the three weeks ending August 5th the deaths of children under one year of age were respectively 31, 46, and 53. The Women's National Health Association has employed eight nurses temporarily to assist the Poor-law medical officers in dealing with disease in children.

The Dublin Hospitals and the Insurance Bill.

The Board of Superintendence of Dublin Hospitals, a body which supervises the work of those hospitals in Dublin that are in receipt of Government grants, in its annual report presented last week takes occasion to remark on the effect the Insurance Bill, if passed, may be expected to have on the finances of the Dublin hospitals:—

> Hitherto (the report states) the public have looked on the labouring man disabled for work as a fit object for charity. They have subscribed and left legacies to hospitals because it was known that through the wards of the hospital and the special dispensaries attached to them lay the smoothest, shortest, and most economical road to recovery. It is unlikely, should the State arrange for the care of the labouring classes when incapacitated by sickness, that the charitably inclined will continue to subscribe to the same extent. ..... It is not too much to say that a club doctor, responsible for the health of a large number of workpeople, will, in a great majority of the cases, have to call on the hospitals or their dispensaries for help. On what terms will this be given? If the voluntary aid system is abolished, it must mean a suitable remuneration for all medical service. We are of opinion that a system on such a foundation would not work as well or as economically as does the present one.

Royal Institute of Public Health.

The Congress of the Royal Institute of Public Health was opened on August 15th in Trinity College, Dublin, when a reception was held by the President, Lady Aberdeen. The presidential address followed. There was a fairly large attendance. The Congress meets every day until August 21st.

The Lane-ways of Dublin.

A potent source of disease in the poorer parts of Dublin is to be found in lanes and courts. There are some 894 streets, alleys, courts, lanes, and roads in the city of Dublin, which are not under the charge of the corporation, and in these refuse collects in great quantities. The corporation apparently has no power to spend money in removing such material, though it has power to compel the owners of these properties to keep their premises in such condition that they should not be a source of disease. The nuisance, however, is

by no means confined to lanes not in charge of the corporation, for the public streets in the poorer quarters are little better kept, in spite of the fact that some £50,000 a year is spent in the cleansing of the streets of Dublin.

Appointment of a City Bacteriologist for Dublin.

Matters have come to a deadlock as regards the appointment of a city bacteriologist for Dublin, as the Local Government Board persists in its refusal to sanction the appointment of the gentleman elected by the corporation. At a meeting of the corporation a few days ago the town clerk read a letter from the Local Government Board stating that they could hold out no hope that they would alter their decision in refusing to regard Dr. Russell as a person possessing the proper qualifications for the post of city bacteriologist. The letter added that the fact that Dr. Russell had passed the examination for a Diploma in Public Health could not in itself be taken as entitling him to be regarded as a bacteriologist under Section 15 of the Prevention of Tuberculosis (Ireland) Act. In a previous letter the Local Government Board had given as a reason for refusing its sanction that Dr. Russell, being a dispensary medical officer, had his time already fully occupied. The corporation has now decided to make no appointment.

The Apothecaries' Hall of Ireland.

The annual meeting of the members of the Apothecaries' Hall of Ireland took place on August 1st. The Governor, Dr. Caleb J. Powell, occupied the chair. The meeting was the largest that has taken place for many years, and the greatest interest was taken in all matters discussed. After the annual report had been read the following appointments were made:—Governor: Dr. Edward Magennis. Deputy-Governor: Dr. J. C. McWalter. Representative on the General Medical Council: Lieutenant-Colonel F. G. Adye-Curran, A.M.S. Registrar: Mr. H. W. Mason. The following were elected Directors: Lieutenant-Colonel Adye-Curran, retired. J. D. Crinion, O'C. J. Delahoyde, B. B. Kennedy, T. G. McGrath, R. P. McDonnell, H. W. Mason, J. J. O'Sullivan, C. J. Powell, J. Shaw, G. S. Stritch, J. A. Whelan.

Sanitation of Portadown.

At a meeting of the Portadown town council held on August 8th a letter was read from the Castleisland Linen Company, calling the attention of the council to the fact that it was discharging sewage into the Garvaghy river, which was causing the company great loss and was also a serious menace to the health of their workers. The water now coming down the river Bann at Portadown was practically undiluted sewage, and it was alleged that the council had filled the wharf of the company with sewage matter. The water in the river was at present in such a state as to be not only a danger to the health of the company's employees, but worse than useless for business purposes. The medical officer of health (Mr. J. L. Rowlett), who was present, said it was a shame and a disgrace that there should be four deaths of children within the week which could have been prevented by proper sanitary accommodation. The matter was referred to the sanitary committee. Portadown has recently and wisely obtained a good water-supply, but it will need to undertake a sewerage scheme as well.

Monaghan and Cavan Asylum Board.

The question of asylum accommodation in Ireland is rapidly becoming a serious one. When an institution is common to two adjacent counties there is apt to be a decided difference of opinion how to provide for an increasing number of lunatics. In the asylum common to Monaghan and Cavan there are at present 920 inmates, of whom 505 are chargeable to county Cavan and 415 to county Monaghan. The board met on August 10th to decide how additional accommodation could be provided to relieve the present congested state of the asylum. The representatives of county Cavan proposed that steps should be taken at once to supply additional accommodation, provided, however, that if any definite proposal were brought before the joint committee by the Cavan representatives at the September meeting it should receive consideration before proceeding further. The Cavan representatives proposed as an amendment that, in the event of no guarantee being forthcoming at the September meeting, an inquiry should be held by the inspectors or some other governing body, who should then proceed to consider the adjourned question of providing such additional accommodation. On a division the seven Cavan members voted for the amendment and the eight Monaghan representatives for the motion, which was carried, and a committee was appointed to make inquiries with regard to the building best suited to the purpose.

Sad Death of a Belfast Practitioner's Son.

Very wide sympathy is felt for Dr. T. K. Wheeler at the drowning, on August 12th, of his eldest son, Mr. T. K. Wheeler, a medical student of very great promise of the Queen's University of Belfast. Mr. Wheeler, who was spending his holidays at Islandmagee on the county Antrim coast, was bathing, when his strength gave way and he sank, despite the heroic efforts of Dr. Charles Dickson to save him. Mr. Wheeler was not only an excellent scholar, but a good cricketer and footballer, and he was a member of the Belfast University contingent of the Officers' Training Corps.

August 15ht.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Preventive Measures Against Cholera.

THE appearance of cholera in Italy has for some weeks given rise to fears as to the possibility of its extension in epidemic form to France. As a matter of fact this has not as yet occurred; most of the cases announced by the press—at Marseilles, at Paris, at Montpellier, at Armentières—are proving to be cases of cholera nostras or cholerine, such as are observed every year about this time. But there are cases of cholera at Marseilles and Montpellier which, it must be admitted, do resemble true cholera in that they have occurred in subjects coming from Italy, and consequently suspects. Bacteriological examination of the stools has given suspicious, though not absolutely conclusive, results. Nevertheless, the most careful precautions have been taken; all the sanitary posts are watchful and the Pasteur Institute has just sent to Marseilles a supply of Dr. Salembéni's anticholera serum, of which Dr Döpfer and Dr. Salembéni himself will supervise the application. The lazaret of Frioul has been got ready to receive travellers in cases where quarantine is deemed necessary. The system of surveillance adopted by the authorities—both French and Italian—is based on the principle of minimising the restraint imposed on travellers. Only actual experience can determine whether it is adequate. At Ventimiglia and at Modane the traveller coming from Italy into France is not subjected to any inquisition; his name is taken and also his destination as shown by his railway tickets. The mayor of that place is then advised by telegram, and immediately on the traveller's arrival he is visited by the district physician, who subjects him to a discreet examination, and on the occurrence of the first alarming symptom makes a bacteriological examination of the stools. If cholera is officially recognised the subject is at once isolated, and those of his entourage are placed under supervision. If experience proves that this procedure is adequate it must be admitted that it is the most humane method and the least vexatious one for the public, but it needs for its perfect execution the goodwill of both traveller and medical man, two human factors upon which it is impossible always to count. The traveller who may happen to resent as unjustifiable and vexatious the supervision to be exercised over him on his arrival at his destination can very easily elude it when he has learnt the *modus operandi* of the system, by taking, before reaching the frontier, a ticket for some place other than his actual destination, since it is the ticket that gives him away. For instance, he can take a ticket for Toulon, and on his arrival in the station there can immediately book for Paris, where there will be no advice of his coming. It is essential, therefore, that the surveillance to which the traveller will be subjected on his arrival at his destination shall not be such as to inspire opposition, and that there shall be no fear that he will be exposed to unnecessary and vexatious examinations and to circumstances that will subject him to the annoying curiosity and the distrust of the inhabitants. It is to be hoped, then, that no medical man on whom this duty shall fall, perhaps a simple country general practitioner appointed by the mayor, will succumb to the temptation to be over-zealous, which would cause travellers to resent his interference and elude the system by

a false declaration. It is easy to see that this method, excellent as are the sentiments that have inspired it, rests on a very fragile foundation. Further, it fails to entail a proper disinfection of baggage and merchandise. The principle of allowing the possible cholera subject to pass and of immediately confining each case as soon as it declares itself is evidently one for the success of which hygienists and sociologists, not to say merchants, ought to hope. But if epidemic cases should break out suddenly in several localities at the same time it is likely enough that the old system of tightly barring the frontiers would be returned to.

Paving and Pastry.

The wood pavements of the streets of Paris are very strongly impregnated with tar, so that while they are being laid or repaired a strong odour of tar pervades the streets. This odour persists for some time after paving operations are finished, especially if the temperature is at all high and the street narrow and confined by tall houses. These facts have given rise to a peculiar action at law which has just come to a serious if satisfactory conclusion. A pastrycook whose shop is situated in the Rue de Buci became a victim last year of the tarred pavement when the authorities ordered the repairing of the street in front of his shop. It was in June, so that the windows were kept open, and all the cakes that were exposed on his counter contracted a disagreeable savour of tar, which aroused considerable discontent among his *clientèle*, who stopped dealing with him. The pastrycook, having thus suffered considerable loss, brought an action against the administration of the city of Paris to recover damages for the injury inflicted on him. The city refused to recompense him, so he summoned the administration before the Conseil d'État, which, after many months of thought and experiment (since the decision would create a precedent that would impose in the future on the city the burden of very heavy charges in similar cases), nevertheless upheld the pastrycook and ordered the city to pay him an indemnity of 1760 francs. The judgment points out that the pastry had really been rendered uneatable by the tar emanations, thus creating an individual injury in excess of the proportion that every individual is called on to suffer in the public interest. The experiments demonstrated that the fatty matters and the butter entering into the composition of the pastry had strongly absorbed the vapour of naphthalene, creasote, and tar disengaged from the street pavement. The injury resulted, therefore, as much from the emanation of vapours as from the dissemination of dust. This faculty of fatty matters, and of objects that contain them in any great proportion, to absorb and retain the most diverse odours, good or bad, with great tenacity, is of course a well-known fact, and is frequently observed in butter and eggs; on the other hand, it is taken advantage of by the manufacturers of perfumes, who use for their extraction from plants lard and the oils. This decision is of considerable interest, small though the incident is that served as its starting point, for every time that wood paving is under operation in Paris the amounts to be claimed by the neighbouring shopkeepers may materially raise the cost of wood-paving. Paris may even have to seek, if not another mode of paving, at least some other means of obviating the rotting of the wood, which is the sole purpose of the use of tar. Possibly the impregnation of the wood with mere dehydrating substances might be worth experimenting with. These facts will be of interest to all cities where wood-paving is employed. The session of the court at which the judges were called on to taste the cakes and decide whether or not they were agreeable to taste must have been a curious tea party.

August 14th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Question of Nursing.

THE question has been lately much discussed whether there is a decreasing ability of mothers to suckle, and before the Berlin Medical Society Professor Frantz read a paper on the subject. He said that many practitioners believe that a great many mothers are unable to suckle their infants; these views are, according to the author, erroneous. There may be some difficulties in certain cases, but a physiological inability to suckle does not exist. It is always possible to overcome these difficulties by patience, and to produce a sufficient lactation. In the lying-in hospital of the University of Berlin, of which Professor Frantz is the director, the infants are given the breast, as a rule 20 hours after birth, five times daily for ten minutes, but not during the night. For lactation the form of the breast and of the nipple is without importance; suckling is possible with every form of breast. It is essential that the puerpera should receive from the first day nutritious food and be allowed to move in bed. Only tuberculosis is a contra-indication against suckling, but not merely a passing feverish state. In Professor Frantz's hospital in Berlin and formerly in Kiel 100 per cent. of the mothers were able to suckle their infants. Professor Heubner stated that in the infants' asylum under his care 83 per cent. of the mothers were able to suckle till the end of the third month, the time when they must leave according to the rules of the institution. Of the remainder, 17 per cent., in some cases the secretion by-and-by completely ceased; in some cases the lactation was at first very satisfactory, but became after some weeks rather scanty; in another series only 300–400 grammes of milk were secreted from the beginning and no increase could be obtained, so that cow's milk must be added; in the last series the secretion was at first insufficient, but later increased, sometimes only in the third month, so that the cow's milk could then be dispensed with. Professor Heubner was also of opinion that, apart from some exceptions, a physiological inability to suckle does not exist. Dr. Finkelstein said that in private practice the conditions differed from those in public lying-in hospitals or infants' asylums. It would, of course, be of the utmost importance if the necessity for wet-nurses could be done away with, as syphilis is more often conveyed by them than is generally believed. It is, however, often impossible for the practitioner to induce mothers to nurse, and if he insists he would certainly often lose his patient and be replaced by a more complaisant medical man. Also a certain number of infants can by no means be induced to take the breast. In private practice mastitis is more frequent than in asylums, the reason being that the infants are given the breast too often and that the nipples are irritated by a too violent mechanical disinfection. Dr. Kassel and Dr. Keller stated that in their asylums nearly all the mothers were able to nurse, but that sometimes the milk became deficient in the third or fourth week. Dr. Aschoff said that it was, of course, possible for every mother to secrete a certain quantity of milk within the first days, but he did not believe that every woman could nurse her infant, if nursing means providing a sufficient secretion for at least five to six months. In asylums, as stated by Professor Heubner, when the secretion of the mother is so small, they make the infant take the breast of another woman too, but this is, of course, not available in private practice, and a wet-nurse is then required. In his experience 20 per cent. of mothers are unable to produce a sufficient quantity of milk. He wished to draw attention to the erroneous opinion that the quantity of milk is alone of importance. Sometimes infants do not get on even when an abundance of milk is produced, but do so at once when there is a change of wet-nurses, showing that the difference in the quality is also a factor.

Operation for Fat Abdomen.

Dr. Jolly, assistant surgeon to the gynæcological clinic of the University of Berlin, writing to the *Berliner Klinische Wochenschrift*, gives a description of an operation for fat abdomen. He said that this condition must be distinguished from pendulous abdomen, the difference being that in the former there is only an abnormal accumulation of fat in the abdominal wall, but that the fascia and the abdominal muscles are intact, whilst in the latter there is an atony of the abdominal walls so that the intestines are in an abnormal position. The diagnosis is made with the patient in a standing position, when it is possible to see whether the abdominal walls are thin and relaxed or whether there is only a pendulous mass of fat hanging as an apron before the firm abdominal wall. The fat-apron must then be lifted up to see how great a quantity may be removed. A circular and transverse incision is then made on the upper part of the fat-apron and a second on the lower part of it, both circles being convex below. The incision must go down to the fascia, the mass of fat between both incisions being extirpated, and the edges of the large wound sutured with

catgut. The above operation was performed on two women who suffered very much from an enormous accumulation of fat. They were both relieved, the wounds healing by primary union. There are only two instances in international medical literature of similar operations, the one concerning a man operated upon by Dr. Demars and Dr. Marx of Paris, and the other by Dr. Schulz, a Russian surgeon.

Death of Profesor Senator.

The Berlin Medical Society and the profession in general have sustained a heavy loss by the death of Professor Senator, late ordinary professor of clinical medicine at the University and honorary President of the Berlin Medical Society. Professor Senator was born in Gnesen, Province of Posen, in 1834, and after having passed through the curriculum in Berlin became qualified in 1858. On account of his financial position he was compelled to settle at once as a general practitioner in Berlin. But although he soon obtained a rather extensive *clientèle* he used his leisure hours for scientific study, so that in 1868 he was recognised as *privat-docent* for clinical medicine. He served in the German-French war in 1870–71, when he was made chief medical officer to a military hospital. He became in this position a favourite of the late Empress Augusta, who caused him to be appointed chief physician to the Augusta Hospital in Berlin, of which she was the patroness, an appointment held by him until 1888, when he was made director of the medical polyclinic of the University and later of the third medical clinic. Reasons of health compelled him to retire a year ago from active duties and also from the presidency of the Berlin Medical Society, of which, however, he remained honorary president. The career of Professor Senator differs from that of the majority of the members of the medical faculty in that he never was an assistant to any clinical or other university institution, but beginning as a general practitioner became one of the leading men of the Berlin medical faculty. His work concerned especially the diseases of the kidneys and metabolism generally; the number of his essays, books, and other communications is so great that space would not permit of mentioning even the titles here. His handbook on the diseases of the kidneys has become a standard work of German medical literature, and his monograph on diabetes in Ziemssen's handbook is also well known to the profession. On the occasion of his 70th birthday his assistants edited a "Festschrift," where a detailed report of his work was given; there were no less than 185 works mentioned and they have certainly increased to 200 since that time. Since June, 1910, on the occasion of the 50th anniversary of the Medical Society, when he was 76 years old, he dedicated to the society a recently written book on "Polycythæmia and Plethora," and he was indeed busy until recently, when symptoms of cardiac failure developed. He was an excellent clinical teacher, generally liked by the students, and as a chairman of the Medical Society presided over the meetings in an accomplished manner. The number of his patients was enormous, especially from Russia. He was one of the attending physicians to the late Emperor Frederick during his fatal illness.

August 5th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Illness of the Pope.

SINCE July 27th, when I briefly referred to the Holy Father's illness as dating from his exertions, on a day of stifling heat, in celebrating the anniversary of his predecessor's death, the lay press, particularly that of Germany, has been prolific in reporting further complications, till the world has been impressed with the fear that the said illness is of the gravest kind. The facts, derived from a trustworthy source, are these: On the day in question His Holiness was suffering from a slight laryngo-pharyngeal congestion, causing hoarseness and partial aphonia, but he persevered in carrying out the function, till, at its close, he was visibly exhausted, mentally and physically. In the evening the temperature had risen, the cough, previously slight, had become harassing, and the night's rest was broken in consequence. Next morning his body physician, Dr. Petucci, in consultation with Dr. Marchiafava, found the upper bronchi involved, with slightly increased febricula and accelerated respiration. Absolute rest and abstention from "audiences" of every kind kept the symptoms stationary till, on August 6th, an attack of gout in the knee called for immediate treatment. Relief was obtained accordingly, but the august patient found the heat so oppressive that it was thought necessary to change his dormitory to a less sunny exposure. This was done on August 9th with manifest benefit. On the following day, the anniversary of his coronation, the Holy Father had to delegate its celebration to Cardinal Merry del Val, and remained in bed, receiving no visits but those, in the morning and evening, of his physicians. On the morning of June 11th he was quite free from pain in the affected knee; the swelling had diminished; he was able to get out of bed and to make a promenade across the room without support. The othe symptoms, bronchial and laryngo-pharyngeal, had responded satisfactorily to the prescriptions; and nourishment, with a little wine (barolo, to wit, known as the "Piedmontese burgundy"), had been taken with relish. There are no complications of any significance, and the heart has recovered its tone. The one consideration pre-occupying his physicians is the Holy Father's sense of confinement, missing, as he does, the "life on the lagoons" and the fresh breezes which alternate between the Alps and the Adriatic. From year to year his rôle of "prisoner with doors locked on the inside" becomes more irksome; he is getting obese, in spite of exercise in the Vatican gardens or (in unfavourable weather) along one or other of the miles of passages in the Apostolic palace; and his resisting power to occasional illness or to mental fatigue is gradually lessening. For this state of things the remedy is not medical but political; and it remains to be seen whether the *modus vivendi* which appeared on the point of being effected between Leo XIII. and King Humbert may not be brought about between Pius X. and Victor Emanuel III., so that the Holy Father can avail himself of his summer resort on the Alban Hills, or even go farther afield and get rehabilitation, physical and mental, from the "Queen of the Adriatic" herself! As I write the *Osservatore Romano*, the official organ of the Vatican, closes its bulletin with the announcement: "Oggi le condizioni di Sua Santità possono dirsi veramente soddisfacenti." ("To-day the condition of His Holiness may be said to be truly satisfactory.")

The National Monument to Cesare Lombroso.

Verona, it is well known, has been contemplating a monument in commemoration of her distinguished son, the founder of criminal anthropology, the commission for which has been entrusted to one of Italy's best sculptors, Leonardo Bistolfi. All Europe has cordially associated itself with the undertaking, and in its principal nationalities ten committees have been organised to collect subscriptions, while from America, North and South, a similar movement is announced. Japan is the latest accession to the object in contemplation, having formed a committee *ad hoc* consisting of the professor of criminal law in the University of Tokyo, the professor of psychiatry in the same seat of learning, the professor of penal law in the University of Kyoto, the director of the school of foreign languages at Tokyo, and the professor of anthropology at the same University. The Japanese committee, as a first subscription, has collected 1236 francs, the Minister of Justice heading the list with 200 yen (400 francs). Other subscribers are the Minister of the Interior, the Minister of Public Instruction, and the Minister of War.

August 12th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

The Paratyphoid Infections.

AT the symposium on typhoid fever and water-supplies held in the section of Preventive Medicine of the Canadian Medical Association, which took place recently in Montreal, the typhoid-like infections were discussed at considerable length. Mr. T. A. Starkey, M.B. Lond., professor of hygiene at the McGill University and chairman of the section, has during several years insisted that in all the epidemics of typhoid fever which have come under his observation in Canada the typhoid-like infections have been prevalent and in some instances predominant. Attention

was directed to Professor Starkey's views on this matter in an article dealing with the typhoid epidemic in Montreal which appeared in THE LANCET of April 23rd, 1910. As a matter of fact, Professor Starkey has emphasised this phase of the situation in Canada on several occasions during the past few years. The paratyphoid infections are at the present time being subjected to close investigation by bacteriologists and there is some difference of opinion as to the differentiation of the same. In Canada opportunities for studying the question under favourable circumstances occur frequently, epidemics of typhoid fever are common, the paratyphoid infections appearing to play a prominent part. Owing to the opinions expressed by the members of the Canadian Medical Association with regard to the paratyphoid infections, following the lead of Professor Starkey, it appears certain that more attention will be paid to them.

Antivaccination Movement in Montreal.

There have been some cases of small-pox in Montreal and neighbourhood during the past five or six weeks. Vaccination has not been strictly enforced in the Province of Quebec, and steps have been taken to render the operation obligatory in Montreal and its neighbourhood. These steps have met with strenuous opposition on the part of the antivaccinationists of Montreal, who base their objections on personal right.

Gift to McGill University.

Sir William Macdonald, of Montreal, has made another magnificient gift to McGill University, in presenting to it a large area of land at the back of what is known as the McGill Campus, adjoining the grounds of the Royal Victoria Hospital. The city of Montreal had made an unsuccessful offer for the property, in order to add it to Mount Royal Park. Sir William Macdonald's action has removed a fear that this land might be acquired by speculators for building purposes, and has, furthermore, ensured to McGill University space which is now needed, and which in course of time would have become absolutely necessary for expansion. It is stated that Sir William gave more than $1,000,000 (£200,000) for the property, which, with what he has already given to McGill University, makes up a total of about $5,500,000 (£1,100,000).

The Heat Wave in Canada.

An exceptional heat wave has swept over the United States and Canada. In Toronto, where temperature records have been kept for the past 57 years, the temperature was two degrees higher on July 3rd than had ever been known before. In the afternoon on that day the officially recorded temperature was over 103° F. in the shade. Many persons were prostrated by the heat in Toronto, and the death-rate of young children was greatly increased. In Montreal on July 3rd the highest officially recorded temperature was nearly 95°. Montreal has long had an unenviable reputation for an excessive infantile mortality, and the extreme heat of the week beginning July 2nd greatly intensified it. On July 2nd and 3rd no fewer than 146 children under five years of age died out of a population of 430,000 or thereabouts, an appallingly large proportion. During the same 48 hours 49 adults died, some of them certainly owing to weather conditions.

The Maritime Provinces Medical Association.

Owing to the fact that no matter where the annual meeting of the Maritime Provinces Medical Association takes place, whether in Nova Scotia, New Brunswick, or Prince Edward Island, the attendance is principally composed of Nova Scotia medical men, the President of the Association, in his opening address on July 5th, at Halifax, N.S., suggested that the Association should disband. The committee, on the President's motion, have therefore recommended that the Maritime Medical Association cease to exist after the present session, and that the funds in hand, after paying the expenses of this year's meeting, be divided equally between the Nova Scotia, New Brunswick, and Prince Edward Island medical societies. The result of this action is the better support of the Canadian Medical Association.

Free Advertising for Antituberculosis Society.

The Bill Posters' Association of Canada at its annual convention in Ottawa decided to grant the Anti-tuberculosis Society $25,000 (£5000) worth of advertising space throughout Canada. Consequently the posters of the society will be posted free in all cities and towns of Canada represented in the association.

August 7th.

Obituary.

SAMUEL JONES GEE, M.D. LOND., F.R.C.P. LOND.,

CONSULTING PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL.

WE have already announced the regretted death of Dr. Samuel Jones Gee, which occurred at Keswick, where he was staying with his daughter, on August 3rd. He had gone to bed in his usual health, but was taken suddenly ill about 4 A.M. He was able to attract the attention of his daughter who slept in an adjoining room, but he died almost directly. Subsequent examination showed extensive atheromatous degeneration of the aorta and its valves. He was cremated by his own request at Golder's Hill on August 8th. There were present at the cremation Sir Thomas Barlow, representing the Royal College of Physicians of London, Sir William S. Church, Sir Richard Douglas Powell, Dr. Norman Moore, representing the staff of St. Bartholomew's Hospital, Mr. W. Bruce Clarke, and Mr. D'Arcy Power.

Dr. Gee was born on Sept. 13th, 1839. He was educated at Enfield, joining University College, London, in 1854. In 1857 he entered the medical school of University College Hospital. At the intermediate examination in medicine for the M.B. degree at London University Dr. Gee was bracketed with Dr. Charles Hilton Fagge, the well-known obstetrician, as university scholar and gold medalist in chemistry, and he also took honours in anatomy and physiology. This distinguished record was continued in 1861, when he was again bracketed with Dr. Fagge as university scholar and gold medalist in medicine in the final examination for M.B. In 1863 Dr. Gee became a Member of the Royal College of Surgeons of England, and in 1865 proceeded to the M.D. degree at London University, becoming also a Member of the Royal College of Physicians of London in the same year. In 1868 he was appointed assistant physician to St. Bartholomew's Hospital. When the skin department was opened at that hospital in 1869 Dr. Gee was appointed to the post, but in the following year he resigned it to become demonstrator of pathology and morbid anatomy. He was elected to the Fellowship of the Royal College of Physicians of London in that year. In 1871 he was appointed lecturer on pathological anatomy at his hospital. He became lecturer on medicine in 1878 and in the following year was appointed full physician and lecturer on clinical medicine, holding these appointments for 26 years—viz., until 1905—when he passed on to the consulting staff. He was Censor of the Royal College of Physicians from 1893 to 1897.

Dr. Gee was not a prolific writer; solidity rather than ephemeral attraction was his aim. He published two books. The first, on "Auscultation and Percussion," attained the dignity of its sixth edition in 1908. The second, "Medical Lectures and Aphorisms," reached its third edition in 1907. In 1871 Dr. Gee delivered the Goulstonian lectures at the Royal College of Physicans of London, in 1892 the Bradshaw lectures on Signs of Acute Peritoneal Diseases, and in 1899 the Lumleian lectures on Bronchitis, Pulmonary Emphysema, and Asthma. The last two were published in THE LANCET.

Mr. D'Arcy Power writes: "The death of Dr. Gee removes a remarkable personality from the medical profession. Naturally shy and reserved, with no advantages of rank or fortune, and without any marked social qualities, he raised himself almost to the top by the sheer force of intellect. His mind was clear and logical. It worked slowly, but the results at which he arrived were so correct that he was looked upon as a safe guide by all who asked his advice. He was well read in the writings of the Greek physicians of classical times, and although he would have been the first to disclaim any right to the title of a learned physician in the sense that Dr. Greenhill and Dr. Frank Payne were learned, there is little doubt that he moulded his teaching on classical lines. He tried, often very successfully, to put the largest amount of knowledge into the fewest possible words. Both the knowledge and the words were of his own gathering, and they were usually seasoned with a

sparkle of humour which was so subtle that the ordinary student lost it, though it was a source of lasting enjoyment to the university man and to the numerous medical practitioners who accompanied him round the wards. Amongst his colleagues he was held in high esteem for his courtesy, gravity, and the general soundness of his judgment, but he was essentially a lonely man; never very robust, he had no hobbies to bring him into familiar contact with his fellow men; happy in his domestic life and with his books, he preferred to remain at home when each day's work was done."

In 1870 Dr. Gee married Miss Sarah Cooper, a daughter of Mr. Emanuel Cooper, by whom he had two daughters, one of whom survives him. He died, as he would have wished, at a moment's notice, and he left directions that the urn containing his ashes should be placed between those of his wife and elder daughter.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Siegbert Marcuse, a Berlin practitioner who has played an important part in the organisation of professional opinion on the subject of contract practice. He had previously been awarded the Iron Cross when in charge of a field hospital before Metz. Dr. Walter Hesse of Dresden, a well-known hygienist and bacteriologist. Dr. Charpy, professor of anatomy in the Toulouse Medical Faculty. Dr. J. Elvin Courtney, lecturer on neurology in the Denver and Gross College of Medicine. Dr. P. Funaioli, professor of neurology in the Sienna Medical School.

Medical News.

MIDDLESEX HOSPITAL MEDICAL SCHOOL.—The Broderip scholarships have been awarded to E. L. P. Gould and H. Rowntree; the Lyell medal and scholarship to E. L. P. Gould; the Freeman scholarship to H. J. B. Heelas; the Hetley clinical prize to E. W. Hall; the Second Year's Exhibition to T. B. Paul; the Leopold Hudson prize to T. L. Hardy. Prizes have also been awarded as follows: Surgery, W. Y. T. Stiles; practical surgery, T. L. Hardy; practical medicine, F. W. Browne; midwifery, A. O. Gray; practical midwifery, P. N. Button; anatomy, T. C. Kidner; physiology, T. C. Kidner; practical anatomy, T. C. Kidner; biology, R. P. S. Mason; embryology, S. W. M. Jones; pathology, O. C. Morphy; bacteriology, T. L. Hardy; forensic medicine, H. J. Shields; practical pharmacy, H. J. B. Hellas; organic chemistry, S. W. M. Jones; inorganic chemistry, A. Selby; physics, J. W. Edgar; histology, S. W. M. Jones; mental diseases, A. Juett; pharmacology, H. A. Lucas.

VISIT TO THE CLAYBURY ASYLUM BY FRENCH MEDICAL MEN.—By arrangement with Dr. F. W. Mott and Dr. Robert Jones, the members of the Twenty-first Annual Congress of Neurologists and Psychiatrists in France and French-speaking countries which met at Amiens last week visited the Claybury Asylum on August 9th and were received by Sir John MacDougall and Mr. T. Chapman, chairman of the Claybury Asylum. They inspected the pathological laboratory of the London County Asylums and made a tour of the wards and grounds of the asylum, accompanied by the officials. At luncheon they were welcomed by Mr. Chapman, who felicitously referred to the advantage of professional interchange of views in regard to the general treatment of the insane and to the friendly feeling obtaining between two great nations. Dr. Charron, the general secretary of the Congress, replied and expressed much satisfaction with the care and treatment of the mentally afflicted by English public authorities. After lunch several interesting cases were demonstrated and discussed, and opinions as to diagnosis, prognosis, and treatment were given by the visitors which should prove helpful. Cases of gross brain disease, of cerebral tumours, lateral sclerosis, anomalous cases of general paralysis, obscure nervous affections, and osteitis deformans associated with mental symptoms were discussed and views exchanged as to the diagnostic value of cyto-diagnosis, the Wassermann reaction, and "606," which had been used in Claybury for general paralysis. The visitors spent a very pleasant day, and such friendly international conferences, arranged informally, tend to help the medical interest in our asylums and must be of advantage to patients placed in these institutions.

A new patent medicine stamp has been issued by Somerset House, designed to make clear that the stamp implies no Government guarantee of any kind. This step has been rendered necessary by the action of certain manufacturers in making it appear that the stamp was a Government guarantee for the nature or value of the patent medicine.

THE NIGHTINGALE NURSING HOME AT DERBY.—Extension buildings to the Nightingale Nursing Home at Derby, costing £10,000, have been opened by the Duke of Devonshire, president of the Royal Derbyshire Nursing Association. The awards gained by members of the nursing staff were distributed at the same time by the Duchess of Devonshire.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.—Entrance scholarships of the value of £60 for three or five years, and £30 for one year, will be awarded on the result of an examination to be held on Sept. 19th and following days. Forms of entry and all particulars can be obtained on application to the secretary, 8, Hunter-street, Brunswick-square, London, W.C., before Sept. 12th. The session will begin on Monday, Oct. 2nd, when Sir Henry Butlin, P.R.C.S., will deliver the inaugural address at 4 P.M. Mrs. Garrett Anderson, M.D., president of the school, will take the chair. The Fishmongers' Company have awarded an exhibition of the value of £60 for three years to J. E. Hart, a student of the school.

MEMORIAL TO THE LATE PROFESSOR CUNNINGHAM.—The bronze medallion to be erected in memory of the late Professor D. J. Cunningham has now arrived in the School of Physic, Trinity College, Dublin, and will be in its place before the winter session begins. It bears a profile portrait of Cunningham, and the words, "Daniel Johannes Cunningham, Defunctus Adhuc Loquitur." In addition a bronze medal has been struck, bearing a similar design on the obverse, and on the reverse a reproduction of the chimpanzee's brain prepared by Cunningham. The medal will be for competition in the anatomy class of Dublin University each year. The memorials established in Edinburgh are of similar nature. The medallion and medal are designed by Mr. Oliver Sheppard, an Irish sculptor, whose designs for the Bennett and Banks medals received the highest praise some years ago.

THE DISEASES OF ANIMALS ACTS.—The annual reports of proceedings under the Diseases of Animals Acts for 1910 have been issued. The chief veterinary officer, Mr. Stewart Stockman, deals with foot and mouth disease, swine fever, glanders, anthrax, and sheep scab. The laboratory report contains a note on A Trypanosome of British Cattle, which, however, it is not considered probable, gives rise of itself to any serious illness among domesticated animals; also a note on Bracken Poisoning in cattle. Warbles and ticks are also dealt with. The report of the assistant secretary (animals division), Mr. A. W. Anstruther, discusses the geographical distribution of foot and mouth disease, swine fever, sheep scab, glanders and farcy, anthrax, and the measures taken in regard thereto; also the exportation and shipment of horses and regulations as to dogs, and matters relating to the movement of domestic animals generally.

NAIRN TOWN AND COUNTY HOSPITAL.—The medical report of Dr. B. Cruickshank, submitted to the annual general meeting of the Nairn Town and County Hospital on August 3rd, stated that at the date of the last report 9 cases remained in the hospital and 129 were admitted during the year, making 138 cases under treatment. Of these, 88 were cured, 29 relieved, 8 died, and 12 remain in the hospital. Sixty-two cases might be classified as medical and 76 as surgical. Twenty-two surgical operations were performed, and 33 cases were attended as out-patients for dressing, &c. The average number of days in hospital for each patient was 25. The secretary and treasurer submitted his report, which showed that the income amounted to £605 13*s.* 4½*d.*, as against £607 18*s.* 0½*d.* for the previous year. The expenditure was £654 11*s.* 0½*d.*, as against £622 4*s.* 1*d.* The increase in expenditure was due to the salary of the increased staff, expenses connected with the appointment of the new

matron, and repairs to the hospital. Mr. W. Wilton Johns of Nairn was appointed on the medical staff of the hospital.

THE INVESTIGATION OF PELLAGRA.—A Second Field Commission, consisting of Dr. Louis Sambon and Dr. Albert J. Chalmers, has left London for the study of the epidemiology and etiology of pellagra in Hungary, the Austrian Tyrol, Spain, and Southern France. Professor Haase of Memphis, Tenn., U.S.A., Dr. Cole of Atalanta, Ga., U.S.A., and Dr. Martinez of Yucatan, Central America, will join the Commission *en route*. The fullest facilities for the investigation have been granted by the Governments of Austria, Hungary, and Spain. The expense will be generously borne by Mr. H. S. Wellcome, whose name is already honourably identified with the support of physiological research in its relation to the advancement of medical science.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

University of Wales Bill.

THE University of Wales No. 2 Bill has passed through a Standing Committee of the House of Commons and been ordered to be reported to the House. This is the Bill which Sir D. BRYNMOR JONES, with the support of Welsh Members in all quarters of the House, introduced for the purpose of making the medical degrees of the University of Wales registrable under the Medical Acts, and also of giving to the University the right to send a representative to the General Medical Council.

The Nutritive Value of Bread.

The report which Dr. J. M. HAMILL has made to the Local Government Board on the nutritive value of bread made from different varieties of wheat flour has been laid on the table of the House of Commons.

HOUSE OF COMMONS.

WEDNESDAY, AUGUST 9TH.

Importation of Chinese Pork.

Mr. FELL asked the President of the Local Government Board whether he had received the report from his representatives in China on the conditions under which the Chinese pork was produced and packed before shipment to this country.—Mr. BURNS replied: Dr. Farrar has recently returned from China, and his report is in preparation.

THURSDAY, AUGUST 10TH.

Experiments on Living Animals.

Mr. CHANCELLOR asked the Secretary of State for the Home Department how many visits were paid during 1910 to laboratories registered for experiments on living animals by Dr. Thane and Sir James Russell respectively; and how many of the 4939 experiments mentioned in Table IV. A. and how many of the 90,753 experiments mentioned in Table IV. B, were actually witnessed by Dr. Thane and Sir James Russell respectively.—Mr. CHURCHILL answered: During 1910 Dr. Thane paid 153 visits to registered premises and Sir James Russell 141. In addition to these 15 visits were paid by Dr. Whitaker, who was appointed as temporary inspector during the absence of Sir James Russell through illness. Of the experiments mentioned in Table IV. A of the return, Dr. Thane witnessed 30 and Sir James Russell 20. Of the experiments in Table IV. B, Dr. Thane saw 20 and Sir James Russell 59.

The Vaccination of Soldiers' Children.

Mr. W. THORNE asked the Under Secretary of State for War whether he would draw the attention of the officials of the Army Medical Department to the immunity from small-pox enjoyed by children in England and Wales who had been legally exempted from vaccination under the Vaccination Acts, 1898 and 1907, and in Scotland under the Act of 1907; and whether he would issue a new regulation to such officials instructing them to respect the conscientious objections of soldiers in barracks in respect to the vaccination of their children.—Colonel SEELEY replied: As regards the first part of the question, I am not aware of any official statistics on the subject. As regards the second part of the question, the reply is in the negative.

MONDAY, AUGUST 14TH.

National Insurance and Syphilis.

Sir HENRY KIMBER asked the Chancellor of the Exchequer whether, under Section 13, Subsection 4, of the National Insurance Bill, an approved society would be allowed to refuse sickness benefit to insured persons suffering from tertiary syphilis which appeared 20 or even 40 years after infection—e.g., a gumma of cheek appearing after a lapse of 40 years and tabes or locomotor ataxy appearing after a lapse of 20 years.—Mr. LLOYD GEORGE replied: Matters of this kind will be dealt with in the rules of the society, which will, of course, be framed by the society with the consent of its members, and will have to be approved by the Insurance Commissioners.

Impending Vacancy in the Scotch Prison Commission.

Sir HENRY CRAIK asked the Lord Advocate whether, in view of the impending vacancy amongst the Prison Commissioners in Scotland, steps would be taken to carry into effect the recommendations of various committees, including the Scottish Departmental Committee in 1902, that there should be a medical member on the Board of the Prison Commissioners.—Mr. URE replied: It would be premature to make any statement on the subject. I am aware of the recommendation referred to by the honourable Member, which was made by the Departmental Committee on Scottish Prisons in 1900.

Dairies and Milkshops Orders in Scotland.

Mr. WATT asked the Lord Advocate whether there was now any burghal local authority in Scotland which had not yet appointed one or more veterinary surgeons for the purpose of the Public Health (Scotland) Act, 1897, and the Dairies, Cowsheds, and Milkshops Orders; and, if not, would he say when a veterinary surgeon would be appointed to the staff of the Local Government Board, so that a uniform system and standard of meat inspection might exist throughout Scotland.—Mr. URE wrote in reply: There is not any burghal local authority in Scotland which has not yet appointed one or more veterinary surgeons for the purpose of the Act and Orders referred to by my honourable friend. It is not proposed meantime to appoint a veterinary surgeon to the staff of the Local Government Board for Scotland.

TUESDAY, AUGUST 15TH.

Sanitary Commissioner to the Indian Government.

Mr. MACPHERSON asked the Under Secretary of State for India whether the office of Sanitary Commissioner to the Government of India was established on the recommendation of the Plague Commission; whether that office was now vacant; and whether, in view of the prevalence of plague, cholera, malaria, and small-pox, he would see that this office was not abolished and that an appointment was made to it at once.—Mr. MONTAGU said in reply: The vacancy in the office of Sanitary Commissioner with the Government of India caused by the death of the late incumbent has not yet been filled, and the duties of the post are at present discharged by the Director-General of the Indian Medical Department. The Government of India are disposed to think that the creation of a separate Sanitary Commissioner in 1904 has not fulfilled expectations, and are inclined to revert to the arrangement previously existing. The Secretary of State must reserve his decision until the full statement of the views which the Government of India have promised is before him. The Sanitary Commissioner is merely an advising officer to the Government of India. The responsibility for sanitation in the several provinces rests with the local governments. The office was not created in 1904 on the recommendation of the Plague Commission of 1898. The Plague Commission's scheme was not accepted.

Local Health Committees and Medical Benefit.

Colonel RAWSON asked the Chancellor of the Exchequer to state how present members of Friendly Societies who were over 65, or who were in receipt of medical benefit from their society, and did not become insured persons under the National Insurance Bill, would be able to continue to receive medical attendance after the Bill had passed, seeing that the arrangements with the doctors would now be made by the Health Committees and not by the societies on whom the liability for their sick members rested.—Mr. LLOYD GEORGE wrote in reply: The Local Health Committees will only intervene in the administration of medical benefit so far as persons insured under the Bill are concerned. Those who are insured, but not under the Bill, in societies which become approved societies will not be affected.

Cancer amongst Pitch-workers.

Mr. PERKINS asked the Secretary of State for the Home Department whether, in view of the fact that the spread of cancer among workers with pitch was attributed to the anthracine contained in tar and pitch derived from gas-works, in that tar and pitch derived from blast furnaces was free from anthracine, he would take this fact into consideration in the new Home Office regulations.—Mr. CHURCHILL furnished the following written reply: The fact that blast-furnace pitch is much less liable to give rise to cancer is already recognised in the draft regulations, which have been issued by the Home Office, for the manufacture of patent fuel (briquettes) with the addition of pitch. Factories and workshops in which no pitch other than blast-furnace pitch is used are specifically exempted from the regulations. It is not, however, certain that anthracine is the constituent of ordinary pitch to which the prevalence of cancer in the industry is due.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, AND COMPANY, LIMITED, Ruskin House, 44-45, Rathbone-place, London, W.

Voice and its Natural Development. By Herbert Jennings, Author of "The Preventive and Remedial Treatment of Stammering," &c. Price 3*s*. 6*d*. net.

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, London.

Album of Photographs issued by the South Indian Branch of the British Medical Association. Price 10*s*. 6*d*. net.

The Essentials of Food. By Donald Stewart, M.D. Price 3*s*. 6*d*. net.

The Mental Effects of a Child's Environment. By T. S. Clouston, M.D., LL.D., F.R.C.P.E. (Reprinted from "The Child," May and June, 1911.) Price 6*d*.

CHURCHILL, J. AND A., London.

Dental Materia Medica, Pharmacology, and Therapeutics. By Charles W. Glassington, M.R.C.S., L.D.S. Edin. Second edition. Price 6*s*. net.

DENTAL RECORD, THE, Office of, Alston House, Newman-street, London, W.

The Prevention of Dental Caries. By J. Sim Wallace, D.Sc., M.D., L.D.S., Hon. Dental Surgeon to the West-End Hospital for Nervous Diseases. Price 1*s*. 6*d*. net.

The Prevention of Dental Caries. By Stanley Colyer, M.D. Lond., M.R.C.P. Price 6*d*. net.

FISCHER, VICTOR, Budapest.

Surgical Stitching Instrument for the Suture of the Stomach and Intestines according to Dr. Hültl, Principal of the IV. Surgical Department in the Metropolitan St. Stephen's Hospital, Budapest. Price not stated.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BUTLER, THOMAS HARRISON, M.D. Oxon., has been appointed Oculist to the Coventry School Clinic.

EMRYS-JONES, FRANKLIN, L.M.S.S.A., has been appointed X Ray Expert to the Coventry School Clinic.

HALL-EDWARDS, JOHN, L.R.C.P. Edin., has been appointed X Ray Expert to the Coventry School Clinic.

HALPIN, R. EDGAR, L.D.S. Glasg., has been appointed Dentist to the Coventry School Clinic.

HAWKS, F. S., L.M.S.S.A., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Wigton District of the county of Cumberland.

LAWRIE, D., M.B., M.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Glastonbury District of the county of Somerset.

MACLENNAN, ALEX., M.B., C.M. Glasg., has been appointed Consulting Surgeon to the East Coast Railway Company for the Glasgow District.

MANNING, HERBERT CAMPBELL, L.R.C.P. Lond., M.R.C.S., has been appointed Assistant School Medical Officer for the County of Dorset.

MARTIN, MARY EDITH, L.R.C.P. & S. Edin., L.F.P.S. Glasg., L.S.A., has been appointed Assistant Medical Officer at Bailbrook House, Batheaston, Bath.

MELROSE, M. M., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Surgeon at the Miller General Hospital for South-East London, Greenwich.

ROBERTSON, WILLIAM, M.B., Ch.B. Glasg., has been appointed District Medical Officer by the Stroud (Gloucestershire) Board of Guardians.

ROBINSON, JOHN ELLIOTT, M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S., D.P.H. Camb., has been appointed School Medical Officer for the County of Dorset.

SYMONS, WILLIAM HENRY, M.D Brux., M.R.C.S., L.R.C.P., L.S.A., D.P.H., has been reappointed Medical Officer of Health of Bath.

THOMAS, FRANK LESLIE, M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Pathologist to the North Devon Infirmary, Barnstaple.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BETHLEM HOSPITAL.—Locum Tenens as House Physician. Salary at rate of 4 guineas a week, with apartments, board, and washing.

BETHNAL GREEN INFIRMARY AND WORKHOUSE, Cambridge Heath, E.—Assistant Medical Officer. Salary at rate of £100 per annum, with board, lodging, and washing.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Junior House Surgeon. Salary £70, with board and residence.

BRIGHTON, ROYAL SUSSEX COUNTY HOSPITAL.—House Physician. Salary £100 per annum, with apartments, board, and laundry.

BRISTOL GENERAL HOSPITAL.—House Physician for six months. Salary £60, with board, residence, &c.

BUXTON, DERBYSHIRE, DEVONSHIRE HOSPITAL.—Assistant House Surgeon for six months. Salary £70 per annum, with apartments, board, and laundry.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Surgeon, unmarried. Salary £90 per annum, with board, lodging, and washing.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary £150 per annum, with apartments (not board).

CARLISLE, CUMBERLAND INFIRMARY.—Resident Medical Officer. Salary at rate of £80 for first six months and £100 for second six months, with board, lodging, and washing.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Physician. Also House Surgeon. Salary in each case £80 per annum, with board, washing, and residence.

CROYDON GENERAL HOSPITAL.—Senior and Junior House Surgeons. Salaries £105 and £60 respectively, with board, laundry, and residence.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant House Surgeon for six months, unmarried. Salary at rate of £50 per annum, with board, apartments, and laundry.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £75 per annum, with residence, board, and washing.

ESSEX EDUCATION COMMITTEE, Chelmsford.—Medical Inspector (female) for six months. Salary £125, and necessary travelling expenses.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and laundry. Also Assistant House Surgeon. Salary £75 per annum, with board, residence, and laundry.

HALIFAX, ROYAL HALIFAX INFIRMARY.—Senior House Surgeon, unmarried. Salary £120 per annum, with residence, board, and washing. Also Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

HARTLEPOOLS HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and lodging.

HEMEL HEMPSTEAD, HERTS, WEST HERTS HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with rooms, board, and washing.

KINGSEAT ASYLUM.—Assistant Medical Officer. Salary £120, with board, &c.

LIVERPOOL, ROYAL SOUTHERN HOSPITAL.—Three House Surgeons and Two House Physicians for six months. Salary at rate of £60 per annum, with board and residence.

LIVERPOOL, UNIVERSITY OF.—Chair of Pathology. Salary not less than £600 per annum.

MACCLESFIELD GENERAL INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with board and residence.

MANCHESTER, ANCOATS HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with board, &c.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Visiting Surgeon. Salary £100 per annum. Also Resident Medical Officer for six months. Salary £40.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer and Pathologist. Salary £60 per annum.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham Hill-road.—House Surgeon. Salary £80 per annum, with apartments and board.

NEWCASTLE-UPON-TYNE CITY ASYLUM, Gosforth.—Junior Assistant Medical Officer, unmarried. Salary £140 per annum, with apartments, board, and laundry.

NEWCASTLE-UPON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £160 per annum.

NORTHAMPTON GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £90 a year, with apartments, board, washing, and attendance.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £160 per annum, with apartments, attendance, &c.

ORKNEY, PARISH OF ROUSAY AND EGILSHAY.—Resident Medical Officer. Salary £71 per annum.

OXFORD, RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—Casualty House Surgeon, unmarried, for six months. Salary at rate of £80 per annum, with board, &c.

PRESCOT UNION WORKHOUSE AND INFIRMARY, Whiston.—Resident Assistant Medical Officer. Salary £120 per annum, with apartments, board, washing, attendance, &c.

PRESTON ROYAL INFIRMARY.—Junior House Surgeon, unmarried, for six months. Salary £60 per annum, with board, residence, and washing.

QUEEN CHARLOTTE'S LYING IN HOSPITAL, Marylebone-road, N.W.—Assistant Resident Medical Officer for four months. Salary at rate of £50 per annum, with board, residence, and washing.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, N.E.—House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing.

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL.—House Surgeon. Salary £110 per annum, with board and residence.

RYDE, ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House Surgeon, unmarried. Salary £125 per annum.

ST. PANCRAS (SOUTH) INFIRMARY AND WORKHOUSE.—Senior Assistant Medical Superintendent and Senior Assistant Medical Officer. Salary at rate of £135 per annum with residential allowances.

ST. PETER'S HOSPITAL FOR STONE, &c., Henrietta-street, Covent Garden, W.C.—Junior House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

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SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon, unmarried, for six months. Salary £70 per annum, with residence, board, and washing.

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SUNDERLAND ROYAL INFIRMARY.—House Physician for six months. Salary £80 per annum, with board, residence, and laundry.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary at rate of £100 per annum, with board, lodging, and laundry.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Junior House Physician. Salary £75 per annum.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Two House Physicians and Three House Surgeons for six months. Board, lodging, and laundry provided.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY.—Senior House Surgeon. Salary £120 per annum, with board, washing, and apartments.

WORCESTER COUNTY AND CITY ASYLUM, Powick.—Third Assistant Medical Officer, unmarried. Salary £150 per annum and all found.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of a vacancy for a Certifying Surgeon under the Factory and Workshop Act at Montgomery, in the county of Montgomery.

Births, Marriages, and Deaths.

BIRTHS.

PAIN.—On August 13th, at Montagu House, Leatherhead, the wife of Basil H. Pain, M.B., M.R.C.S., of a daughter.

WYSARD.—On August 6th, at Ellerker-gardens, Richmond Hill, the wife of Staff-Surgeon A. T. Wysard, R.N. (retired), of San Paulo, Brazil, of a daughter.

DEATHS.

ARCHIBALD.—On June 23rd, 1911, at East Farleigh, Kent, suddenly, of heart failure, W. F. Archibald, M.B., Ch.B. Edin., Surgeon, Royal Navy, aged 28.

EVANS.—On August 10th, John Evans, M.R.C.S., L.D.S., aged 82.

SCANLAN.—On August 12th, at Kerswell, Broadclyst, Exeter, Lieutenant-Colonel James Scanlan, retired, Army Medical Staff, aged 64.

YOUNG.—On August 12th, at Atherstone, Charles Albert Young, M.R.C.S., L.R.C.P., aged 46.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

BASEMENTS AND THE LAW.

THE Housing and Town Planning Act, 1909, now regulates the sanitary conditions under which the use of underground rooms for sleeping purposes may be permitted by local authorities. It deals in terms which are explicit and reasonable with a topic not altogether new, and which is of considerable importance in the eyes of those who desire to see the provision of wholesome houses for the people encouraged, so far as this may be done by forbidding the existence of such as are flagrantly and obviously insanitary. In these circumstances a letter which appeared in the *Times* of August 9th, and which, by the way, was signed "A Doctor's Daughter," demands some comment owing to the extraordinary inaccuracy of the main statement of the law contained in it, rather than on account of deductions based upon a mutilated excerpt from the seventeenth section of the Act referred to. This extract was quoted at the end of the letter, and we shall remind our readers of the contents of the body of that document if we mention that it commenced by referring to the Englishman's home as having ceased to be his castle, and proceeded to say that "the Metropolitan Borough (of Marylebone) demands that no one may sleep in a basement (however good that basement may be apparently) if the surface of the floor is more than 3 feet below the surface of the road." The writer followed this surprising summary of the law with allusions to the practice of assigning the basement to menservants as their sleeping quarters in large houses in London, and declared that as a consequence of the legislation described "thousands of servants, particularly male servants, will be thrown out of employment, or people will have to do with fewer domestics because they will not have room to house them. The very people this law is made to help it will mulct of a livelihood altogether." A later passage in the same letter declared: "Even the lady and gentleman may not sleep downstairs nowadays in their own houses, or they might do so to allow the 'lady's lady' and the 'gentleman's gentleman' to occupy their rooms." Other paragraphs assigned reasons for the practice of menservants sleeping in basements, contrasted servants in "the sixties" with those of the present day, and predicted an increase in the number of houses to let in London. Then the writer proceeded to supply the quotation which gave a clue to the source of the prohibition which she had in her mind, the opening paragraph of her letter having left her readers in doubt as to whether her apprehensions had been roused by an Act of Parliament or by a new by-law of the Marylebone borough council. The portion which she cited from Subsection 7 of the section mentioned above was as follows. How she could have got so far without going farther we, of course, cannot say, so will charitably suggest that a friend supplied her with an extract which she did not trouble to verify. Subsection 7: "A room habitually used as a sleeping-place, the surface of the floor of which is more than 3 ft. below the surface of the part of the street adjoining, or nearest the room, shall, for the purposes of this section, be deemed to be a dwelling-house so dangerous or injurious to health as to be unfit for human habitation." Taken as it stands, this would be obviously unreasonable, and would fully justify the recommendation of "A Doctor's Daughter" that "it would be better to inspect basement sleeping accommodation and suggest improvements where necessary, but the subsection does not end there. After a comma, not a full-stop, it continues: "if the room either (*a*) is not on an average at least seven feet in height from floor to ceiling; or (*b*) does not comply with such regulations as the local authority, with the consent of the Local Government Board, may prescribe for securing the proper ventilation and lighting of such rooms, and the protection thereof against dampness, effluvia, or exhalation"; and it further provides that if the local authority fail to make such regulations the Board will make them in its place. Probably few persons in any way interested in house property in London were greatly disturbed by the letter referred to, but as at this time of the year some may read an isolated copy of a newspaper and fail to notice a contradiction or correction, we feel justified in referring to the matter in detail. Modern sanitary legislation may disturb individual owners of property and demand from them expenditure which they may resent, but in instances such as that under discussion the effect obtained is only to diminish profits made by the letting of housing accommodation wholly unfitted for its purpose, and local authorities are to be commended when they enforce the law with vigilance and without fear or favour. Their regulations as a rule are such as their medical officers of health recommend to them, and they are framed under the supervision of the Local Government Board. The regulations in force in Marylebone are before us, and probably correspond with those of many other boroughs in their provisions, from whatever source they may have been derived. In any case, they are obviously directed towards lessening the number of underground dwellings approximating to cellars, or to their use as sleeping places, rather than to interfering with accommodation provided for their male servants by the inhabitants of Portland-place and Harley-street, to whom reference was especially made by the writer of the letter upon which we have commented, a letter which certainly illustrated the errors into which "a little knowledge" may lead the unwary.

A NEW MANUSCRIPT OF ALEXANDER OF TRALLES.

IN the still not entirely searched Escorial Library in Spain there is an eleventh-century parchment Codex in which, after folio 141, are preserved a list of medical prescriptions for wounds which some physician must have copied from Books 13, 14, and 15 of Aetius's "Tatrabiblon." The manuscript bears a revision of the fourteenth century, and the reviser notes twice in the margin that the manuscript he used for the purpose bore the name of Alexander. The author signified was almost certainly Alexander of Tralles, because he stated he had borrowed from Aetius, and therefore the revised Escorial text presents to us Alexander's version of three books of Aetius. Another manuscript in the same library states, as had been suspected previously, that Alexander of Tralles was a Christian.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced for August and September, 1911:—

June 1st–August 31st (Squirrels Heath, Romford).—Town Planning and Modern House and Cottage Exhibition.
August 12th–30th.—E.M.I. (Enseignement Médico-mutuel International) Tour in Scandinavia.
,, 15th–21st (Dublin).—Royal Institute of Public Health.
,, 21st–23rd (Larvik).—Fourteenth Norwegian Physicians Congress.
,, 28th–Sept. 11th (South-East of France).—Eleventh "Voyage d'Etudes Médicales."
,, 30th–Sept. 2nd (Berlin).—Third International Laryngo-Rhinological Congress.
,, 30th–Sept. 6th (Portsmouth).—British Association.
,, 31st and Sept. 1st (Vancouver).—Thirteenth Annual Meeting of the British Columbia Medical Association.
Sept. 4th–9th (Yarmouth).—Sanitary Inspectors' Association. Annual Conference.
,, 5th–7th (Philadelphia).—American Electro-therapeutic Association.

Medical Diary for the ensuing Week.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. Dr. Simson: Diseases of Women. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Bidwell: Surgical Treatment of Obstructive Jaundice.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 12.15 P.M., Lecture:—Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. 2.30 P.M., Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Mr. B. Harman: Iritis.

THURSDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Bidwell: Surgical Treatment of Dilated Sigmoid.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. Dr. Simson: Gynæcological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Medical Registrar: Demonstration of Cases in Wards. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Clinical Theatre, London Hospital, Mile End-road, E.

MONDAY.—2 P.M., Demonstration in Clinical Medicine:—Dr. Wall: Pulmonary Diseases.

TUESDAY.—2 P.M., Demonstration in Clinical Medicine:—Dr. Grünbaum: Diseases giving rise to Morbid Renal Excretion.

WEDNESDAY.—2 P.M., Demonstration in Clinical Medicine:—Dr. Hutchison: Abdominal Disease.

THURSDAY.—2 P.M., Demonstration in Clinical Medicine:—Dr. Head: Diseases of the Nervous System.

FRIDAY.—2 P.M., Demonstration in Clinical Medicine:—Dr. L. Smith: Diseases of the Heart.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.).

TUESDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London, (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.). Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (23rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's 2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (24th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.)., Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (26th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.), Hospital operations are performed daily.

EDITORIAL NOTICES

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

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Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1911, which was completed with the issue of June 24th, were given in THE LANCET of July 1st.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1911 are now ready. Bound in cloth, gilt lettered, price 16*s.*, carriage extra.

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METEOROLOGICAL READINGS.

(Taken daily at 12 noon by Steward's Instruments.)

THE LANCET Office, August 16th, 1911.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Aug. 10	30·10	N.E.	...	124	81	65	63	70	Fine
,, 11	30·10	N.E.	...	119	86	63	62	65	Overcast
,, 12	30·00	N.E.	...	120	87	61	65	69	Fine
,, 13	30·12	E.	...	132	91	63	65	70	Fine
,, 14	30·17	E.	...	131	89	65	66	71	Fine
,, 15	30·15	N.E.	...	120	77	60	59	63	Cloudy
,, 16	30·15	N.E.	...	118	75	57	55	60	Cloudy

The following journals, magazines, &c., have been received:—South African Medical Record, Journal of the East Africa and Uganda Natural History Society, L'Hygiène, Detroit Medical Journal, Archiv für Experimentelle Pathologie und Pharmakologie, Annales des Maladies des Organes Génito-Urinaires, Revue de Chirurgie, Revue de Médecine, Indian Medical Journal, Canadian Practitioner and Review, Biometrika, Middlesex Hospital Journal, American Medicine, American Journal of Surgery, St. Louis Medical Review, Ophthalmolcgy, Interstate Medical Journal, American Journal of Obstetrics.

Communications, Letters, &c., have been received from—

A.—Ancoats Hospital, Manchester, Secretary of; Mr. J. A. Anzell, New York; Mr. E. Anastassoff, Sophia; Apothecaries Hall of Ireland, Dublin, Registrar of; The Automobile Association, Lond.; Messrs. Adlard and Son, Lond.

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C.—Cumberland Infirmary, Carlisle, Secretary of; Mr. F. G. Carsten, Huguenot, S.A.; Dr. E. J. Cooke, Sheffield; Chitaldroog, India, District Medical and Sanitary Officer of; Messrs. Cutting and Underwood, Lond.; Dr. J. M. Chisholm, Woolton; Dr. R. T. Cooke, Sutton; Mr. M. R. Charlton, Montreal; Dr. Thomas Colvin, Glasgow; Mr. John Currie, Edinburgh.

D.—Dean-Meyer Co., Berlin; P. E. Derrick Advertising Agency, Lond.; Messrs. A. De St. Dalmas and Co., Leicester; Messrs. W. Dawson and Sons, Lond.; Mr. Alexander Don, Dundee.

E.—Eighth International Congress of Applied Chemistry, New York, Hon. President of.

F.—Dr. Fieldhall, Lond.; F. R. W.; Forward Publicity Co., Birmingham; Lieutenant D. C. L. Fitzwilliams, R.A.M.C., Frimley; Colonel R. H. Firth, R.A.M.C., Simla; Dr. David Forsyth, Lond.; Mr. Gustav Fischer, Jena; Mr. F. E. Fremantle, Lond.

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J.—Messrs. J. Jameson and Son, Dublin; Dr. Hugh Jones, Liverpool; Dr. Robert Jones, Woodford Bridge; *Journal of Laryngology, Rhinology, and Otology*, Lond.

K.—Mr. C. Kleyer, Karlsruhe; Kent and Canterbury Hospital, Secretary of; Mr. F. Kidd, Lond.; Dr. Knight, Edinburgh; Messrs. H. G. Kingham and Co., Dorking; Messrs. G. Keener and Co., Lond.; Mr. Joseph Knight, Broad Oak; Messrs. P. S. King and Son, Lond.; Mr. R. Lawford Knaggs, Leeds.

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P.—Professor Karl Pearson, Lond.; Oberarzt Dr. Proell, Königsberg; Preston Royal Infirmary, Secretary of; Mr. D'Arcy Power, Lond.; Portsmouth, Medical Officer of Health of; Paris, Lyons, and Mediterranean Railway, Lond.; Messrs. George Pulman and Sons, Lond.; Captain A. E. Hayward Pinch, Lond.

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